

The background features several large, light gray icons: a circular arrow (refresh) in the upper left, a padlock (lock) in the upper right, and a left-pointing arrow with three circles (undo) in the lower right.

AppleShare Administrator's Guide

Version 4.2

Apple Computer, Inc.

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Preface About This Guide

This guide describes how to use your AppleShare software, which includes the AppleShare Admin, AppleShare File Server, and AppleShare Print Server programs.

The AppleShare Admin program allows you to set up file server security (by controlling access to the server, sharing folders or volumes, and assigning access privileges to these items). You also use Admin to set preferences and adjust file server performance. The AppleShare File Server program provides a centralized resource for users of networked Macintosh and IBM PC-compatible computers to store and share information. The AppleShare Print Server program gives network users more efficient service from their AppleTalk LaserWriter and ImageWriter printers.

The steps you take to install, set up, and administer these services are fully detailed in this guide.

On-screen version of this guide

The complete contents of this guide are available in electronic form, so you can view this guide on-screen, or you can print all or part of this guide yourself. To use the electronic version of this guide, you need Adobe™ Acrobat software. Acrobat and the electronic version of this guide are available on the *AppleShare 4.2* CD-ROM disc.

What's covered in this guide

This guide provides step-by-step details and other useful information for using AppleShare:

- Chapter 1, “Installing AppleShare Software,” provides instructions for installing the AppleShare Admin, File Server, and Print Server programs on your server computer.
- Chapter 2, “Setting Up File Service,” provides instructions for setting up AppleShare file service. You will learn how to create user and group accounts, assign passwords, and provide access privileges to volumes you want to share over the network.
- Chapter 3, “File Server Supervision,” provides instructions for monitoring and controlling file server activity and for communicating with users.
- Chapter 4, “Setting Up Print Service,” shows you how to set up AppleShare print service.
- Chapter 5, “Print Server Supervision,” provides instructions for monitoring and controlling print server activity.
- Chapter 6, “Troubleshooting,” explains common file and print server problems, with suggested solutions for each problem.
- Appendix A, “AppleShare 4.2 Specifications,” provides detailed product specifications.
- Appendix B, “Serial Number Verification and Conflict Resolution,” provides information about solving problems with lost or conflicting serial numbers.

The guide also includes a glossary of terms and an index.

Using on-screen help

AppleShare server software provides two types of on-screen help: AppleShare Guide and Balloon Help.

AppleShare Guide

If you have questions while setting up, maintaining, or troubleshooting AppleShare, look to the Guide menu for access to on-screen help (the Guide menu is identified by a question mark (?) in the upper-right corner of the screen). AppleShare includes separate guides for the AppleShare Admin, File Server, and Print Server programs. The guide available to you depends on the particular program you have open at the time. So, for instance, if you're having printing problems and want to consult on-screen help, you need to open the Print Server program to make the Print Server Guide accessible to you.

Balloon Help

If at any time you see a window, button, menu, command, or icon you want to know more about, use Balloon Help to get the information you need. To use Balloon Help, choose Show Balloons from the Guide menu (the Guide menu is identified by a question mark (?) in the upper-right corner of the screen).

For more information

See the following sources for more information.

Technical documentation

In addition to the *AppleShare Administrator's Guide*, you may need to consult the documentation that came with your server computer, the peripheral devices connected to it, your current version of system software, any network cards installed in your server computer, or the network cabling system you're using.

If your network includes Windows users, you may also want to consult *Getting Started With AppleShare Client for Windows*, which describes how to install AppleShare Client for Windows and gives an overview of how to use it.

Retail books

Apple has produced a number of books on networking in conjunction with the Addison-Wesley Publishing Company. These are available through most bookstores.

- *Understanding Computer Networks* is an introduction to the how, what, and why of networking.
- *Inside AppleTalk* (second edition) is a comprehensive look at the AppleTalk protocol architecture.
- *AppleTalk Network System Overview* is a condensed version of *Inside AppleTalk*.
- *Planning and Managing AppleTalk Networks* provides an in-depth discussion of administering a small- to medium-sized AppleTalk network.

There are also a large number of independently written books on all aspects of networking. You can find a good selection at many general or technical bookstores.

World Wide Web support pages

If you have access to the Internet, you may find additional information about AppleShare and related products on Apple's World Wide Web pages. You can find Apple's home page at the following URL:
<http://www.apple.com>.

What's new in AppleShare 4.2

This section briefly summarizes the differences between AppleShare 4.2 and AppleShare versions 4.0.2 and 4.1.

- *Native file server* AppleShare 4.2 runs in native mode on Power Macintosh computers, and thus can take greater advantage of PowerPC™-microprocessor technology.
- *Improved performance* AppleShare 4.2 provides faster performance over AppleShare 4.1 for file transfers between clients and the server.

- *Greater number of open files* AppleShare 4.2 allows you to have substantially more files open on the server at one time: up to 346 unique open files, or 3000 total open files. Previously, each time a client opened a file on the server, even if the file was already opened by another client, it would count toward the 346 limit on open files. In AppleShare 4.2, many users can open the same file and it is counted as only one open file against the 346 limit, allowing up to 3000 open-file operations.
- *Dynamic caching* AppleShare 4.2 provides a single block cache that dynamically tunes itself for optimal performance, which makes AppleShare 4.2 especially easy to manage. Once the server is up and running, AppleShare 4.2 will allocate all available RAM to its block cache. All the administrator must do is decide how much RAM to leave free for other application programs.
- *More concurrent users* AppleShare 4.2 raises the limit of simultaneously connected users from 150 to 250.
- *Greater number of shared items* With AppleShare 4.2, you can share as many as 100 volumes or folders.
- *Greater number of volumes* With AppleShare 4.2, you can connect and use up to 50 physical volumes.
- *Enhanced client* AppleShare Workstation 3.6.1 provides improved performance when connecting to any server, an improvement that was previously available only to those clients connecting to AppleShare 4.1 servers. The workstation software also can display up to 150 volumes in the volume selection dialog box. (This dialog box, which states “Select the items you want to use” at the top, appears after the user logs on to the server.)
- *Apple Guide support* AppleShare 4.2 includes on-screen help based on Apple Guide technology, providing a convenient way for administrators to search for and view details about AppleShare setup, maintenance, and troubleshooting.

1 Installing AppleShare Software

This chapter provides instructions for installing AppleShare software on your computer. The chapter also describes how to prepare the computer for safety and security.

Note that if you are upgrading from AppleShare version 4.0.2 or 4.1, all you need to do is install the AppleShare 4.2 software and upgrade the client software to Workstation Software 3.6.1. When you start the AppleShare Admin program (using the instructions in Chapter 2, “Setting Up File Service”), your users and groups information is retained, as well as the access privileges you assigned for volumes and folders. You may also want to set cache preferences, as described in the section “Setting Cache Preferences” in Chapter 3.

Getting ready

Before you install your AppleShare software, you need to prepare your system and your computer environment.

Security

Access privileges, as described in Chapter 2, protect data on the file server from unauthorized access over a network. That protection can be bypassed, though, by someone with physical access to the file server. (Access privileges prevent access over the network; they cannot prevent someone from opening a folder directly on the server computer.) If you have any concerns about physical security, and especially if you plan to store highly confidential information, you should consider putting the server computer in a separate room with controlled access. If no such room is available, you should consider installing a security software package on the server computer.

System requirements

To install AppleShare server software, you'll need the following:

- *Memory:* Sixteen or more megabytes (MB) of random-access memory (RAM) to run all AppleShare services simultaneously.

To determine how much RAM your computer has, choose About This Macintosh from the Apple () menu.

- *System software:* Macintosh version 7.5.1 or later.

IMPORTANT For maximum performance, all workstation computers should also be running Macintosh system software version 7.5.1 or later.

- *Hardware:* AppleShare 4.2 will run on any NuBus™ PowerPC™-based Power Macintosh computer or Workgroup Server from Apple Computer.

Preparing your server system

To prepare your server system:

- 1 Set up the server computer.**

Follow the setup instructions that came with the server computer.

- 2 Connect all hard disks and CD-ROM drives you plan to use.**

- 3 If you are using Apple RAID Software, initialize your computer's hard disks.**

Consult the Apple RAID documentation for more information.

- 4 Name the hard disks.**

To give a new name to a hard disk, click the current disk name to select it, and type a new name. A disk name can be a maximum of 27 characters. The name cannot contain a colon or begin with a period. If you share the disk in its entirety, the disk name appears in the Chooser, so it makes sense to choose a name that is appropriate and descriptive within your network.

- 5 Connect the server computer to your network.**

Follow the directions in the user's guide for your cable system.

- 6 Check to make sure the AppleTalk option is on.**

Choose the Chooser from the Apple menu. The AppleTalk Active button in the lower-right corner of the Chooser window should be selected. If it is not selected, click it to select AppleTalk Active.

Choosing a zone for the server

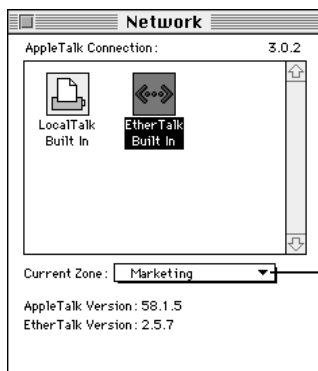
Your network may have zones, which are groupings of devices arranged according to usage or geography or any other system that makes sense for your organization. Your network administrator is responsible for setting up zones. If your network does have zones, you should choose the zone in which you want the server to appear when listed in the Chooser. If you don't choose a zone, the server remains in its current zone.

To choose a zone for your server:

- 1 **Choose Control Panels from the Apple (🍏) menu and open the Network control panel.**

The Network control panel appears.

- 2 **Select the appropriate zone name from the Current Zone pop-up menu.**



Select the zone name here.

- 3 **Close the control panel.**

The server is now in the selected zone.

Installing AppleShare

Installing the necessary software to use AppleShare 4.2 involves:

- upgrading your system software (if necessary)
- installing network software
- installing AppleShare software

The following sections describe these procedures.

IMPORTANT AppleShare users must have the latest system and workstation software to take full advantage of the features of AppleShare 4.2. Be sure to see the section “Getting Users Ready to Use the File Server” in Chapter 2 for more information.

Installing system software

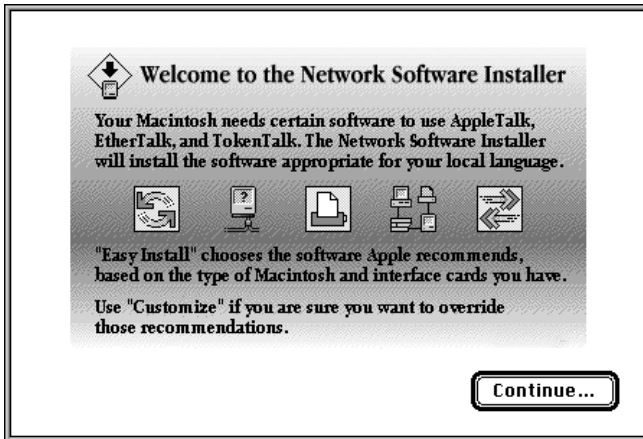
Your server must have system software version 7.5.1 or later installed (choose About This Macintosh from the Apple (🍏) menu to check the currently installed system software). For information on upgrading to System 7.5.1 in the United States, call the Apple User Assistance Center (1-800-SOS-APPL). Outside the United States, consult your local Apple reseller.

Installing network software

You need to upgrade your network software to version 1.5.1 as follows:

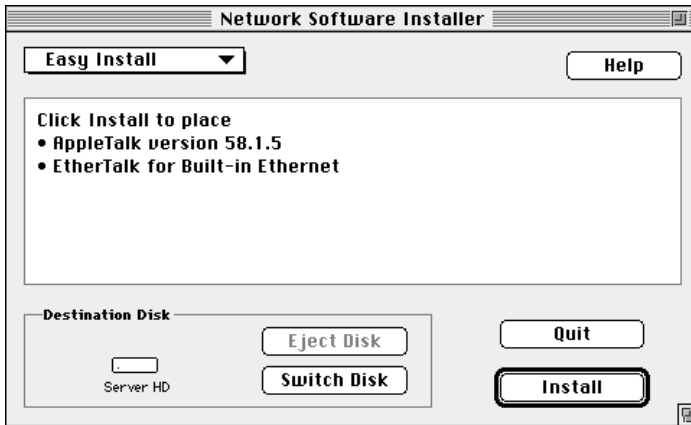
- 1 Insert the *AppleShare 4.2* CD-ROM disc into the CD-ROM drive.
- 2 Open the Network Software Installer folder, then double-click the Installer icon.

The Installer window appears:



3 Click the Continue button.

The following dialog box appears:



4 Verify that the correct destination disk is named in the lower-left corner of the Installer.

If the wrong disk name is shown, click Switch Disk until the name of the correct destination disk appears.

5 Click Install.

If you are running other programs, an alert box appears, indicating that installation is not possible while other application programs are running. Click Continue to quit other programs and continue with the installation. On-screen messages inform you of the progress of the installation. When the installation is complete, an alert box appears.

6 Click Restart.

Installing AppleShare software

You can install the AppleShare software using either the Easy Install or Custom method, as described in the following sections.

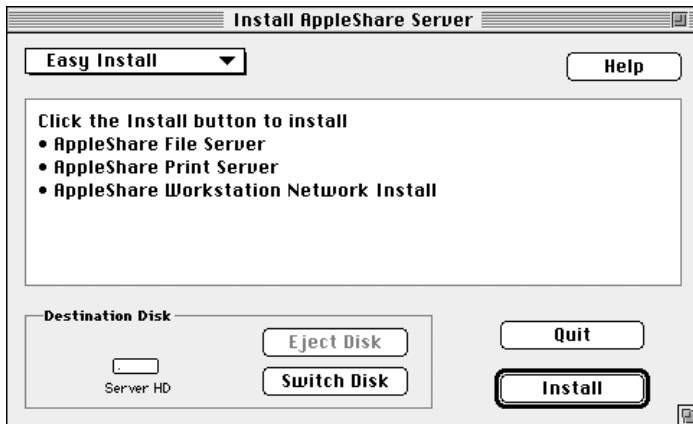
If you're going to provide both file and print service on the server computer, or if you have no space constraints, Easy Install is the most convenient method. If you plan to provide only one service or the other, or if disk space is at a premium, Custom Install may be the better alternative.

Easy Install procedure

To use Easy Install:

- 1 **Insert the *AppleShare 4.2* CD-ROM disc into the CD-ROM drive.**
- 2 **Open the AppleShare Software folder.**
- 3 **Double-click the Installer icon.**

The AppleShare Installer opens.



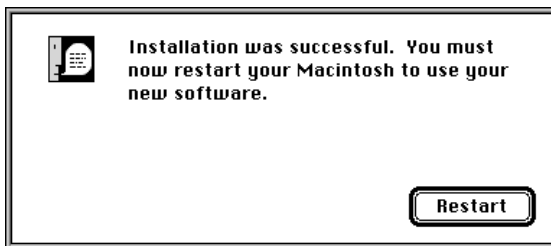
4 Verify that the correct destination disk is named in the lower-left corner of the Installer.

If the wrong disk name is shown, click Switch Disk until the name of the correct destination disk appears.

5 Click Install.

If you are running other programs, an alert box appears, indicating that installation is not possible while other application programs are running. Click Continue to quit other programs and continue with the installation. On-screen messages inform you of the progress of the installation.

When the installation is complete, this alert box appears:



6 Click Restart.

7 Remove the *AppleShare 4.2* CD-ROM and store it in a safe place.

8 Check the server system's date and time.

The server's internal date and time is the source for all date and time entries in AppleShare records. Before you set up file or print services, verify that the server's date and time are correct. If necessary, change the settings in the Date & Time control panel.

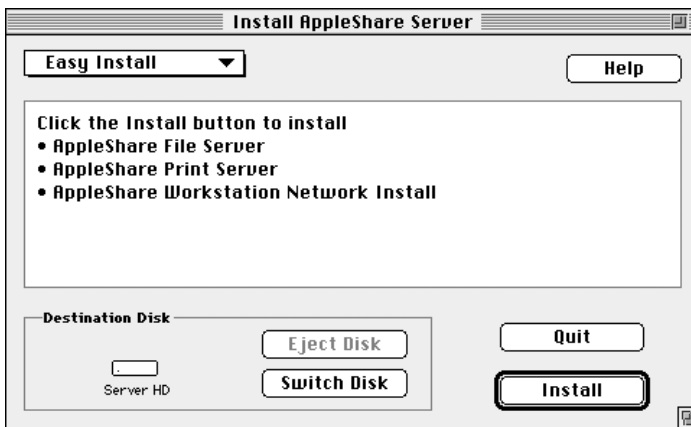
Now that you've installed the AppleShare software, skip to the section "What's Installed" later in this chapter.

Custom Install procedure

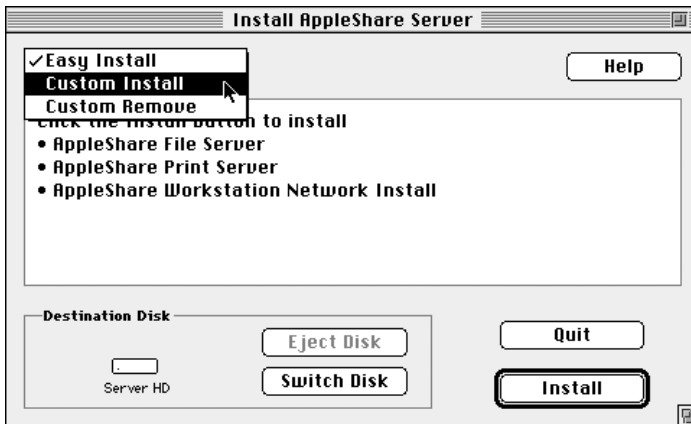
To perform a custom installation:

- 1 **Insert the *AppleShare 4.2* CD-ROM disc into the CD-ROM drive.**
- 2 **Open the AppleShare Software folder.**
- 3 **Double-click the Installer icon.**

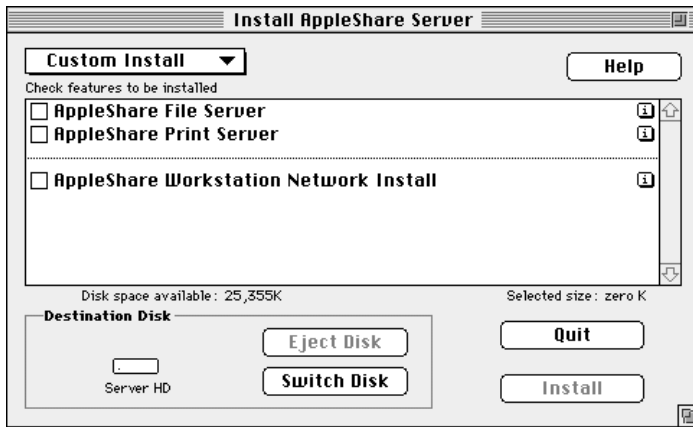
The AppleShare Installer opens.



- 4 **Choose Custom Install from the pop-up menu in the upper-left corner of the Installer dialog box.**



The Installer displays the Custom Install options.

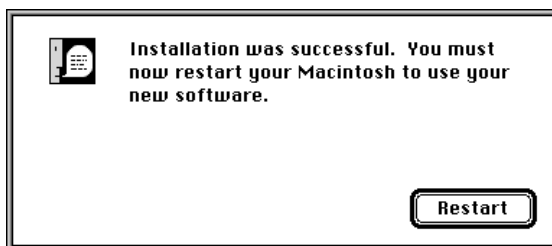


Note: You can click the “i” button next to any item to see information about that item.

- 5 Click the checkboxes next to the AppleShare software you want to install.**
- 6 Click Install.**

If you are running other programs, an alert box appears, indicating that installation is not possible while other application programs are running. Click Continue to quit other programs and continue with the installation. On-screen messages inform you of the progress of the installation.

When the installation is complete, this alert box appears:



The AppleShare software you selected is installed on your hard disk. However, your changes won't take effect until you restart the server computer.

7 Click Restart.

The server restarts and the Finder opens.

8 Remove the *AppleShare 4.2* CD-ROM and store it in a safe place in case you need it again later.**9 Check the server system's date and time.**

The server's internal date and time is the source for all date and time entries in AppleShare records. Before you set up file or print services, verify that the server's date and time are correct. If necessary, change the settings in the Date & Time control panel.

What's installed

If you installed the AppleShare software using the Easy Install method, the following files are installed on your server computer:

- The AppleShare Admin, AppleShare File Server, and AppleShare Print Server programs are placed in your startup disk's System Folder. Aliases for each of the AppleShare programs are automatically created and placed in the Apple Menu Items folder, in the System Folder. You can thus start the Admin, File Server, and Print Server programs by choosing them from the Apple menu.
- The AppleShare Guide files—AppleShare Admin Guide, AppleShare File Server Guide, and AppleShare Print Server Guide—are placed in your startup disk's System Folder. These files allow you to obtain on-screen help for the AppleShare Admin, File Server, and Print Server programs.
- The AppleShare 4.2 Read Me is placed at the root level of your startup disk, as is SimpleText, which is a program that allows you to open the Read Me file.
- PC Net Exchange is placed in your startup disk's Extensions folder, within the System Folder. PC Net Exchange is a system extension that helps users of Macintosh computers share DOS/Windows files over an AppleTalk network with users of AppleShare Client for Windows software.

- File Server Extension is placed in your startup disk's Extensions folder within the System Folder. This extension contains most of the file server software.
- The Workstation Software 3.6.1 folder is placed at the root level of your startup disk. This folder contains the Network Software Installer, the Workstation Installer, and the *Workstation User's Guide*.

Note: The Users & Groups Data File, a file that is automatically created when you first start the AppleShare Admin program and which stores user names, user passwords, and user groups, is located in your startup disk's Preferences folder, within the System Folder.

Moving AppleShare data from another computer

In most cases, you can easily move AppleShare information (such as the users and groups you've created) from one computer to another, even if the information that you want to move was created using an earlier version of AppleShare or using Macintosh file sharing.

If you are moving data from AppleShare version 2 or later: You can transfer information about users and groups to your new server and maintain access privileges for folders and volumes.

If you are moving data from Macintosh file sharing: Users and groups will be maintained, but you will have to reenter access privileges. Follow the instructions here for preserving users and groups information, then see Chapter 2 for details about setting access privileges.

If you are moving data from AppleShare version 1: You can't transfer data automatically. You need to create new users and groups and assign new access privileges to the volumes you want to share on the server computer.

These instructions assume the following:

- The new server computer has been fully set up.
- AppleShare 4.2 has been installed on the new server computer.
- A large-capacity external hard disk has been connected to the old server computer.
- Backup copies exist of the current Users & Groups file (AppleShare 2) or the Users & Groups Data File (AppleShare 3, Macintosh file sharing, or earlier versions of AppleShare 4) on a floppy disk.

Follow these steps to move data:

- 1 Make sure that the AppleShare File Server software is not running on the old server computer, and that the AppleShare Admin program is running.**

You will use the AppleShare Admin program to copy everything from your old server computer that you want to continue to share on the new server computer. If you are moving data from Macintosh file sharing, you will copy from the Finder.

- 2 Copy the contents of the startup volume from the old server computer's hard disk to the external disk drive.**

If you are moving data from version 2: Use the Copy Volume command from the Volumes menu to copy the startup volume.

If you are moving data from version 3 or from an earlier version of AppleShare 4: Use the "Copy <Item> to" command from the Privileges menu.

If you are moving data from Macintosh file sharing: Copy the volume from the Finder. The file-sharing upgrade does not allow you to retain your current access privileges on the new server computer.

- 3 Move the external drive from the old server computer to the new server computer.**

After you've finished copying all the volumes and folders you want, quit the AppleShare Admin program and then choose Shut Down from the Special menu. Turn off the external hard disk, and disconnect it from the old server computer. Then connect and start up the external hard disk to the new server computer, first making sure that the new server is shut down.

4 Start up the new server computer.

5 Drag the Users & Groups Data File to the Trash.

Open the Preferences folder contained in the System Folder on the new server computer and drag the icon of the Users & Groups Data File to the Trash.

6 Copy the backup copy of your current Users & Groups file (AppleShare 2) or Users & Groups Data File (earlier versions of AppleShare 4, AppleShare 3, Macintosh file sharing) to your new server computer.

If you are moving data from version 2, drag the Users & Groups file to the System Folder. If you are moving data from version 3 or 4 or from Macintosh file sharing, drag the Users & Groups Data File to the Preferences folder.

If you want to leave your shared volumes and folders on the external hard disk, you've done everything you need to upgrade to AppleShare 4.2 on your new server computer. When you start the AppleShare Admin program, user passwords will be in effect, as will the access privileges for the volumes and folders you've moved to the new server.

If you want to move the shared volumes and folders to the new server computer's startup disk, or to any other hard disk connected to the server computer, be sure to open AppleShare Admin and use the "Copy <Item> to" command in the Privileges menu to copy the shared volumes or folders. If you copy the volumes or folders from the Finder, you will not be able to retain your current access privileges on the new server computer.

2 Setting Up File Service

When you installed the AppleShare File Server program, you automatically installed a program called AppleShare Admin. You use AppleShare Admin to register users and assign access privileges for the volumes you plan to share on the file server.

This chapter explains how you use AppleShare Admin to set up file service on your server computer. You'll also learn how to start the AppleShare File Server program. Finally, you'll learn what information users might need to know before they begin using file service.

Overview of setting up file service

This figure shows you “at a glance” the steps you need to take before you can begin providing AppleShare file service. The rest of this chapter describes in detail how to complete these procedures.

Start AppleShare Admin

Once you start the AppleShare Admin program, you’ll also need to

- register your copy of AppleShare
- name the file server
- enter an Admin Key
- create a user account for yourself

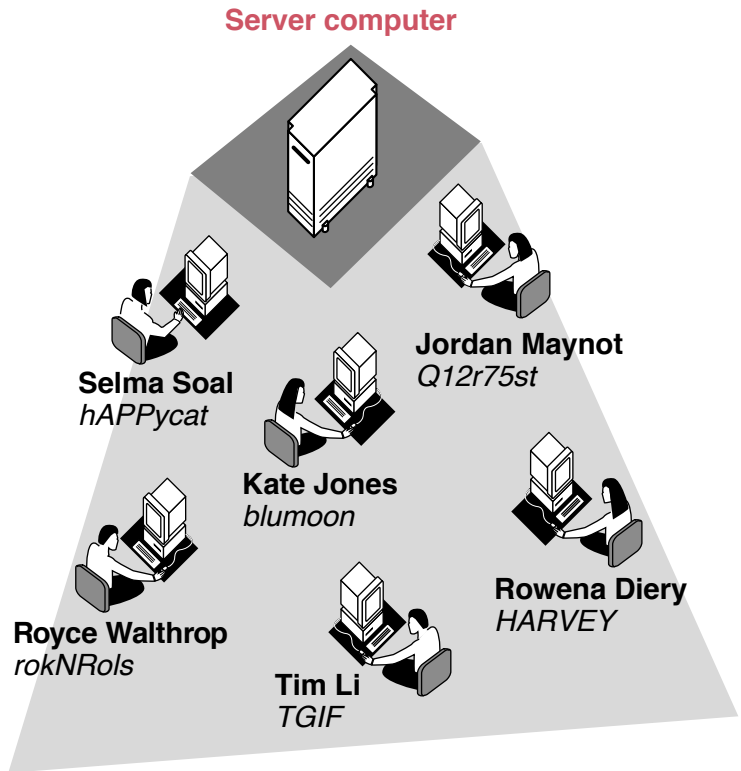
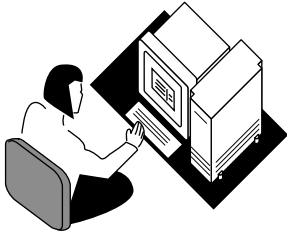
Establish file server security

There are several methods of controlling access to folders and files on the server:

Register users

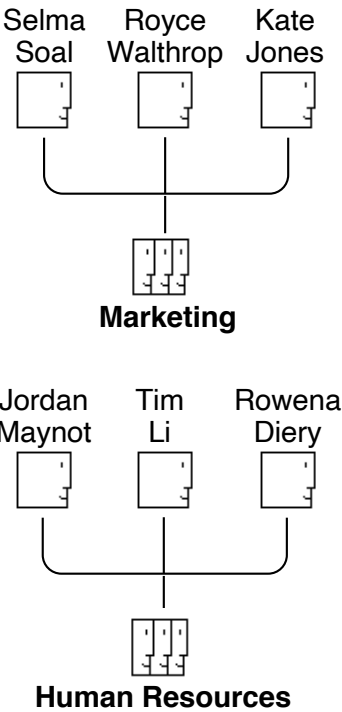
Assign a user name and password to users who will access volumes on the server.

You can also choose to allow or deny guest access.



Create groups

Set up groups so you can conveniently assign access privileges for the group as a whole. You can create groups according to such things as organizational structure, physical location, or project team membership.



Share volumes and folders

Select items that you want to share

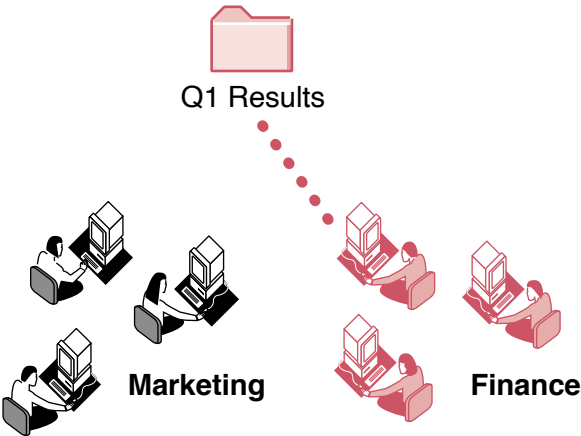
Select whole volumes or folders within volumes.

Set privileges

Set privileges according to the level of access you want users to have to particular items.

Assign a user or group to the volume or folder

Only those users with the appropriate privileges will be able to access the shared item.



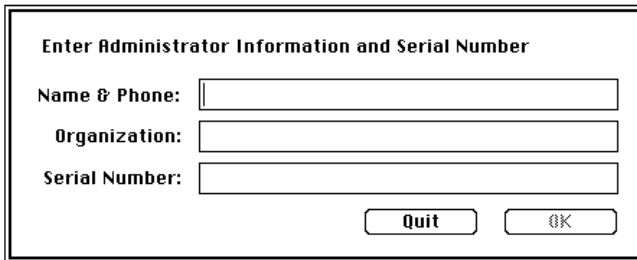
Registering your copy of AppleShare

Registering your copy of AppleShare helps prevent unauthorized copies of AppleShare from being used on the network.

To register your copy of AppleShare:

- 1 Choose the AppleShare Admin program alias from the Apple menu.**

The first time you start AppleShare Admin, you see a dialog box asking you to register your copy of the AppleShare software:



Enter Administrator Information and Serial Number

Name & Phone:

Organization:

Serial Number:

- 2 Enter a contact name and telephone number, and the name of your organization.**

The contact name should be the person who needs to be notified in the event an unauthorized copy of your AppleShare software is detected on the network. In most cases, this is the server administrator. Be sure to provide the contact person's telephone number, too.

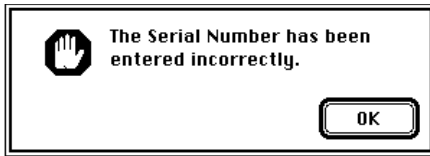
- 3 Enter your serial number.**

Your serial number is printed on the card that came with your AppleShare software. Enter the serial number in exactly the same form it appears on the card. (The serial number is *not* case sensitive.)

For more information about your serial number, refer to Appendix B, "Serial Number Verification and Conflict Resolution."

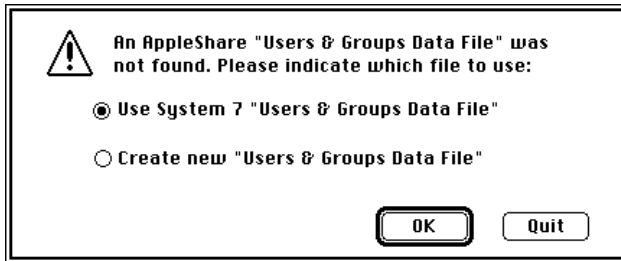
4 Click OK.

If you entered the number incorrectly, you see this alert box:



Enter the number again. You cannot proceed until a valid serial number is correctly entered.

If this is the first time AppleShare has been installed on your server computer, the following dialog box appears:

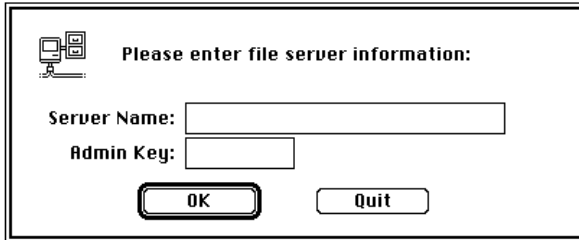


5 Click the "Create new 'Users & Groups Data File'" button and then click OK.

After you click OK, you have completed the registration process. If an unauthorized copy of your AppleShare 4.2 software is detected in the network zone in which your server resides when you start the AppleShare File Server program, an alert box appears and the File Server program quits. See Appendix B, "Serial Number Verification and Conflict Resolution," for more information.

Naming the file server and creating your user account

After you register your copy of AppleShare, as described in the previous section, a dialog box appears, asking you to name the file server and enter an Admin Key:



1 Name the file server.

The name you give the file server is the name users will see in the Chooser when they log on to the file server. The name you choose should help describe the purpose of the file server or indicate which group shares it—for instance, "Accounting" or "Human Resources."

The file server name can be up to 31 characters long.

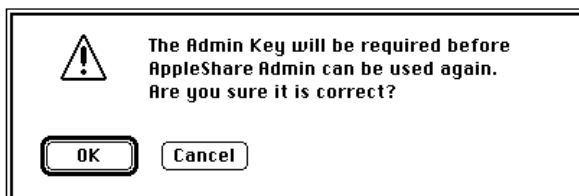
2 Enter an Admin Key.

The Admin Key "unlocks" the AppleShare Admin program. Its purpose is to help prevent unauthorized use of the Admin program.

The key can be any combination of up to eight characters. The Admin Key records both uppercase and lowercase letters, so be sure to type the key *exactly* as you want it. (You can use numbers in the Admin Key, too.)

IMPORTANT Remember your Admin Key! Record it somewhere if necessary. Replacing a forgotten Admin Key is difficult and very time consuming. (See Chapter 6, "Troubleshooting," for instructions on replacing the Admin Key.)

After you enter the Admin Key, this dialog box appears:



3 Click OK or Cancel.

This is the last time you'll see the Admin Key on the screen, so be sure to make a note of it. Click OK to confirm the Admin Key. Click Cancel if you want to change it.

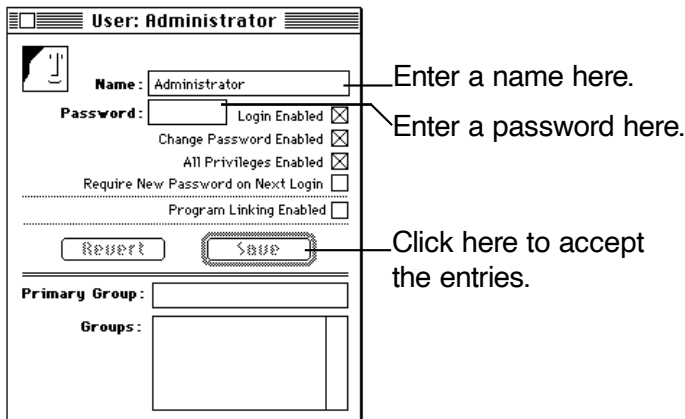
The file server name and Admin Key are stored in the Users & Groups Data File, which is stored in your startup disk's Preferences folder, within the System Folder. As you progress through the steps in this chapter—creating user and group accounts, assigning passwords, and so on—information is added to the Users & Groups Data File.

After you click OK, the Admin program continues the startup process, preparing the startup disk and the other hard disks connected to your server. (You can deny access to these other disks through the Admin program, using the instructions provided later in this chapter.)

In a moment a message appears indicating that you must enter an administrator name and password. You are creating an account for yourself as the file server administrator.

4 Click OK.

After you click OK, a User Information window appears:



5 Enter an administrator name in the Name box.

This step is optional. Many people prefer to leave the name as "Administrator." You can do so, or you can enter any name you wish.

6 Enter a password.

When you log on to the file server from a workstation computer, you must enter this password before you can connect.

The password can be any combination of up to eight characters. Don't use a password that is the same as the Admin Key. Keeping the two distinct provides an added level of administrator security.

IMPORTANT Don't confuse your password with the Admin Key. You use the Admin Key to start the AppleShare Admin program; you use your password to log on to the file server as a user.

7 Verify your AppleShare options.

Most of the checkboxes—Login Enabled, Change Password Enabled, and All Privileges Enabled—have an “X” in them, indicating that the options are enabled. These options are explained in the sidebox “About AppleShare User Options” later in this chapter. As the server administrator, you'll almost certainly want to have these options enabled.

8 Click Save.

The password is replaced by dots. You'll never see it again, but you can change it at any time by selecting the dots, entering a new password, and clicking Save.

AppleShare Admin is now ready for use. In the sections that follow, you'll learn how to register users, create groups, set access privileges, and—when you're ready—begin file server operation.

Establishing file server security

AppleShare file server security works through a combination of interlocking safeguards:

- sharing
- user registration
- passwords

- group membership
- ownership
- access privileges

IMPORTANT The AppleShare software provides substantial and effective security features to prevent unauthorized access over a network. But these features cannot substitute for the security you gain from physically isolating the server computer. If you plan to store highly confidential information on the file server, the best means of securing that information is isolating the server computer in a lockable room. If no such room is available, you may want to consider using a third-party security software product to prevent unauthorized local access to the data on the server computer.

Sharing

You use sharing to determine which items (volumes) users see when they connect to the server. You can set up access privileges for the volume, as discussed later in this chapter, and assign those access privileges to whomever you want. But unless you specifically share the volume, those privileges remain inactive.

IMPORTANT The term *volume* in AppleShare refers to a shared entity available on the server computer and listed in the Chooser when users log on to the file server. A volume may be an entire hard disk or CD-ROM, or it may be a single folder on a hard disk or CD-ROM. This is a change from some earlier versions of AppleShare (versions 1.0 and 2.0) in which a volume was always an entire hard disk or CD-ROM. In earlier versions, the terms *volume* and *hard disk* were used interchangeably.

Once you've shared a disk or a folder, all the folders within it become accessible according to the access privileges you assign. From a user's point of view, it makes no difference whatsoever whether the shared entity is an entire disk or a folder contained on the disk.

User registration

You can restrict server access to specific users that you register, or you can allow guest access.

A *registered user* is anyone who has been assigned a user name and (optionally) a password that must be entered each time the user attempts to log on to the server. Like guests, registered users are limited by the access privileges you or other users have assigned to specific items. Unlike guests, registered users can take advantage of access privileges themselves to protect their own work.

Anyone on the network can be a guest on the file server. Access privileges permitting, guests can open folders, read files, and start programs. They can create folders, and they can add files to them or to owned folders that will accept their work.

Group membership

You can assign registered users to groups, which can be set up in any way that is appropriate to your environment. The access privileges you set up for a volume or folder are extended to a single user or to a group. In the latter case, all users belonging to that group can take advantage of the access privileges.

Ownership

As the server administrator, you are by default the owner of all volumes (and of all folders you create within each volume), but you can transfer ownership if you wish. Ownership of folders is assigned by default to the user who creates them. You set access privileges to determine what the owner, members of a group, designated individual users, and guests can see and do once they have gained access to a volume.

Access privileges

Access privileges are the privileges you give to or withhold from users for opening and making changes to a shared disk or folder. You first decide what can be done and then choose who you'll permit to do it. There are three privilege categories:

- *See Folders* Allows users to open a folder and see the other folders (if any) it contains.
- *See Files* Allows users to see, open, and copy documents and programs within a folder.
- *Make Changes* Allows users to make changes to the contents of a folder, including creating, deleting, moving, and modifying the files and folders within it.

See the section “Access Privilege Strategies” later in this chapter to find how to combine privileges effectively.

There are also three user categories:

- *Owner* Either the creator of the folder or any registered user or group to whom the first owner assigns ownership. Owners are able to change access privileges to the shared items they own whenever they want.
- *User/Group* A single registered user or a specified group of registered users. Users cannot change access privileges to shared items.
- *Everyone* Any user with access to the file server, whether logged on as a registered user or as a guest.

You can assign privileges to an enclosing folder separately from the privileges you assign to folders it contains, so that you can control access very precisely. You *cannot* set access privileges for files. To limit access to particular files, you must create a folder, set the access privileges for the folder, and then place the files in that folder.

Note: Users set access privileges for the folders they create from their own workstations.

Superusers

As the server administrator, you have the ability to override the access privileges users set and to modify those you have set yourself. You can do this from any workstation, as well as at the server computer itself. Because you can exercise this power from a workstation, you're called a *superuser*.

If you wish, you can assign this ability to one or more additional users. Superuser status is controlled by the All Privileges Enabled option. You set this option when you create a user, as discussed in the next section, "Registering Users." As the administrator, you are automatically regarded as a superuser. This capability is initially turned off for all other users. Sometimes, though, you may need to share your administrative responsibilities, and selecting the All Privileges Enabled option for one or more other users lets you do that.

WARNING Superuser privileges should not be assigned casually. A superuser has access privileges that can pose a serious security risk if not assigned carefully.

Registering users

Registering users means assigning a user name and (optionally) a password to each user to whom you want to allow controlled access to the volumes you share on the server. In addition, other options are available to define and control how each user works on the server. Each user you register is listed in the Users & Groups Data File kept in the server's Preferences folder.

To register users:

- 1 Start the AppleShare Admin program, if it isn't already on.**

Choose the AppleShare Admin alias from the Apple menu to start the program.

- 2 Choose Create User from the Users menu.**

A New User window appears:

The screenshot shows a 'New User' window with the following fields and options:

- Name:** A text input field with an annotation: "Enter the user's name here."
- Password:** A text input field with an annotation: "Enter a password here."
- Login Enabled:** A checked checkbox.
- Change Password Enabled:** A checked checkbox.
- All Privileges Enabled:** An unchecked checkbox with an annotation: "Do not enable these features unless you have a specific reason to do so."
- Require New Password on Next Login:** An unchecked checkbox.
- Program Linking Enabled:** An unchecked checkbox.
- Buttons:** 'Revert' and 'Save' (highlighted with an annotation: "Click here to accept the entries.").
- Primary Group:** A text input field.
- Groups:** A list box.

Note: The list of options available in the New User window may be longer than that shown here depending on the networking services installed on the server computer.

3 Enter the user's name.

A name can be up to 31 characters long. In general, you should plan to enter all names in the same way. For example, *Jane*, *Jane Smith*, and *Smith, Jane* are all equally good, but if you mix the patterns it's easier to become confused. Using uppercase and lowercase letters does not matter; for instance, when the user attempts to log on to the server, *Jane* is treated the same as *jane*.

4 Enter a password.

Press the Tab key to move to the Password box, or just click in it. A password can be up to eight characters long. Users must enter their passwords exactly as you have set them up. (Uppercase and lowercase letters must match. The password *Grtef267*, for example, is not the same as *grtef267* or *GrteF267*.)

You can stipulate a minimum password length in the File Server Preferences window. See the section "Setting a Minimum Password Length" in Chapter 3 for more information.

IMPORTANT Length is important to password security, but so is making a password difficult to guess. Avoid proper names (especially the user's own or that of someone in his or her family) or any other combination of characters that may be obvious or easily guessed.

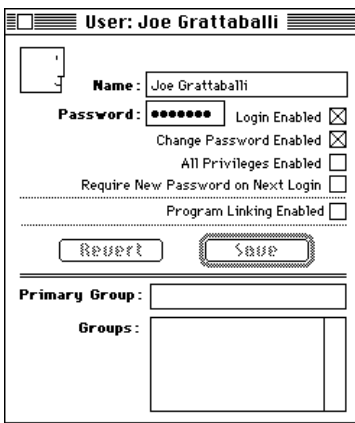
5 Select the AppleShare options you want.

The sidebar on the next page explains the AppleShare user options.

An “X” should appear in the checkboxes for the options you’ve selected. To deselect an option, click the checkbox so the X does not appear.

IMPORTANT The Require New Password on Next Login feature will not work for DOS users, or Windows users who are not using AppleShare Client for Windows. These users cannot receive the server messages that indicate a new password is necessary.

6 Click Save.



AppleShare saves the user’s name and password in the Users & Groups Data File. The name appears in the window’s title bar and is also listed alphabetically in the User List. Hereafter, the window is referred to as the User Information window.

IMPORTANT When you click Save, the password changes to a series of dots—one dot for each letter—and you never see it again. If a problem occurs, you can always change the password as described in the section “Changing Names and Passwords” in Chapter 3, “File Server Supervision.”

About AppleShare User Options

The New User window lets you assign the following options to each user: Login Enabled, Change Password Enabled, All Privileges Enabled, Require New Password on Next Login, and Program Linking Enabled. If other networking services are installed on the server computer, the list of options may be longer.

Login Enabled lets a user connect to the file server.

Login Enabled is on by default. All users must have the Login Enabled privilege if they are to log onto the file server. Turning off this option prevents access to the file server for that particular user, though file service for others remains unaffected. Turn it off only if for some reason you wish to exclude a user without deleting him or her as a registered user.

Change Password Enabled allows users to change passwords from their workstations.

Change Password Enabled, which is turned on by default, is an important security feature of AppleShare. Many administrators choose to advise or require users to change passwords often. On the other hand, some administrators want complete control over users' passwords and prefer to turn off this option.

All Privileges Enabled allows users to change access privileges from their workstations.

All Privileges Enabled, as discussed earlier in the section "Superusers," should be allowed only rarely. This option is on by default for you as the administrator. It's off for all other users.

Require New Password on Next Login requires users to change their password the next time they log on to the file server.

Require New Password on Next Login is off by default. This is a good option to turn on when registering a new user: You can initially assign a simple password—like the user's initials or first name—but require that users change the password to something more effective when they log on. After the user has provided a new password, the Admin program automatically turns this setting off.

Program Linking Enabled allows a user to create a link between a program on the server and his or her computer.

Program Linking Enabled is off by default for you as the administrator and for all other users. Be very careful in assigning this option. Users with program linking enabled have the capability of gaining access to data on the file server that you have not necessarily shared. Enabling this feature poses a severe security risk. Be careful how you use it.

Allowing or denying guest access

As explained in the “User Registration” section earlier in this chapter, if you allow guest access, anyone with a computer on your network can log on to the file server. If you deny guest access, only registered users can log on.

To allow or deny guest access:

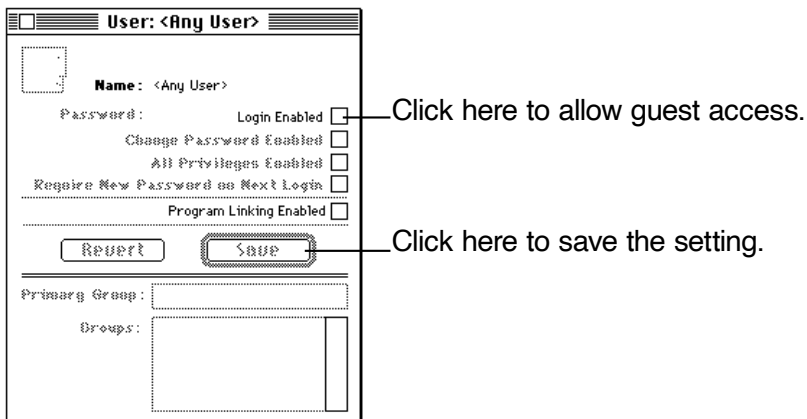
- 1 Start the AppleShare Admin program, if it isn’t already on.**

Choose the AppleShare Admin alias from the Apple menu to start the program.

- 2 Choose User List from the Users menu.**

- 3 Double-click the <Any User> entry.**

The <Any User> information window appears:



- 4 To allow guest access, click the Login Enabled checkbox to place an X in it; or, to deny guest access, click the checkbox to remove the X.**

Options that do not apply to a guest are dimmed.

- 5 Click Save.**

Setting up and adding members to groups

Usually groups are set up to reflect the actual divisions and working relationships of an organization, although you can choose another arrangement, such as physical location. Your arrangement can be complex or simple. There is no right or wrong way; it's simply a matter of matching group structure to your particular needs, and, if necessary, changing the structure to adapt to changes in the organization.

Steps 1 through 4 in the following instructions show you how to create a group. Steps 5 and 6 can be used either to assign users to this new group or to add members to an existing group.

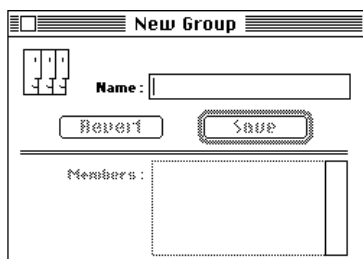
To create a group and add users:

1 Start the AppleShare Admin program, if it isn't already on.

Choose the AppleShare Admin alias from the Apple menu to start the program.

2 Choose Create Group from the Groups menu.

A New Group window appears:



3 Type in a group name.

The name can be up to 31 characters long.

4 Click Save.

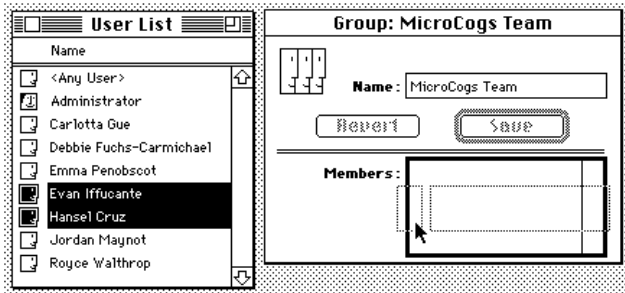
The group is added to the Group List window.

- 5 **Choose User List from the Users menu, then in the User List window select the users you want to assign to this group.**

Select a name by clicking it in the User List window. Select additional sequential names by dragging. Shift-click to select nonsequential names.

- 6 **Drag the *icons* representing the users you selected to the Members box in the Group window.**

Position the pointer on any user icon (not the name), then press and hold down the mouse button. Drag the icons into the Members box until the outline of the box appears bold, and then release the mouse button.



Note: After you've already set up groups, you can add new members to groups by dragging a group icon or set of group icons in the Group List window (which appears when you choose Group List from the Groups menu) over a name in the User List window. The user is automatically added to the group or groups. Or you can add users to a group by dragging one or more selected users' icons from the User List to the group icon in the Group List.

To find out how to delete groups, see the section "Deleting Groups" in Chapter 3, "File Server Supervision."

Sharing volumes and setting access privileges

When you first share a folder or disk, anyone on the network can open, use, and even make changes to the files and folders inside it. But if you want to control access to the shared item, you can set access privileges. (See the section “Explicit and Inherited Access Privileges” later in this chapter for a discussion of what happens if you don’t set access privileges.)

To share volumes and set access privileges:

- 1 **Start the AppleShare Admin program.**
Choose the AppleShare Admin program alias from the Apple menu.
- 2 **Choose Access Information from the Privileges menu.**

The Access Information window appears:

Select a hard disk or folder here. Click here to share the selected volume.

The screenshot shows the 'Access Information' window. At the top, there's a 'Volumes' list with 'Macintosh HD' selected. To the right of this list are 'Share' and 'Open' buttons. Further right is a 'Shared Items:' list. Below the 'Volumes' list is a 'Short Name:' section with a checkbox for 'Same as Enclosing Folder'. The main part of the window is a table for access privileges. It has columns for 'Owner:', 'User /Group:', and 'Everyone:'. Each column has a text field for the name and three checkboxes for 'See Folders', 'See Files', and 'Make Changes'. To the right of these columns are two more checkboxes: 'Change All Enclosed Folders' and 'Can't Move, Rename, Delete'. At the bottom are 'Revert' and 'Save' buttons. Annotations with arrows point to various parts: 'Click here to share the selected volume.' points to the 'Share' button; 'Select a hard disk or folder here.' points to the 'Macintosh HD' entry; 'In this row, select the access privileges for the owner of' points to the 'Owner:' row; 'In this row, select the access privileges for the user or group.' points to the 'User /Group:' row; 'In this row, select the access privileges for guests.' points to the 'Everyone:' row; and 'Click here to confirm the entries.' points to the 'Save' button.

	Owner:	User /Group:	Everyone:	See Folders	See Files	Make Changes	Change All Enclosed Folders	Can't Move, Rename, Delete
	<input type="checkbox"/> Same as Enclosing Folder						<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> Administrator			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

3 Select a volume, or a folder from within a volume, from the Volumes list.

Double-click the icon of the volume to see the folders within it. You may have to scroll through the list to find the volume or folder you want.

4 Click Share to share the volume or folder.

The volume or folder appears in the Shared Items box.

5 Assign an owner to the volume or folder.

As the server administrator, you are the default owner of all volumes and of all folders you have created within a volume. You can change ownership if you want to, using the following procedure:

- a. Choose User List from the Users menu or Group List from the Groups menu.
- b. In the User List or Group List window, select the user or group you're assigning ownership to. You can choose one user or one group.
- c. Select the *icon* of that user or group and drag it to the Owner box in the Access Information window.

The new name appears in the Owner box. The owner receives all of the owner access privileges you have designated.

6 Assign a user or group to the volume or folder.

You can choose any group or any individual (or none at all). For a discussion of the categories of users that can access volumes, see the section "Access Privileges" earlier in this chapter.

- a. Choose User List from the Users menu or Group List from the Groups menu.
- b. In the User List or Group List window, select the user or group you're assigning privileges to. You can choose one user or one group.
- c. Select the *icon* of that user or group, and drag it to the User/Group box in the Access Information window.

The new name appears in the User/Group box. The group or individual user receives all of the user access privileges you have designated. All other users and guests are restricted to the privileges designated to the Everyone category. See the next section, "About the Everyone User Category," for details about the Everyone category.

7 Select the privileges you want to apply.

Click the privilege boxes. You can allow the owner, a group of users, or everyone to see files, see folders, and make changes, or you can limit any of these privileges as you choose. An X in a box means the privilege is assigned; an empty box means the privilege is denied. See “Access Privilege Strategies” and “Privileges Users Need to Work With Files and Folders” later in this chapter for tips on assigning the appropriate access privileges.

8 Click Save.

To change the access privileges you’ve assigned, see the section “Changing Access Privileges” in Chapter 3.

About the Everyone user category

If guest access is allowed, the privileges you select for the Everyone user category apply to guests and to all registered users. (Registered users can have User/Group or Owner privileges *and* Everyone privileges.) If guest access is disallowed, privileges set for Everyone apply to all registered users. Thus it’s easy to make a volume or folder accessible to all registered users and to no one else. You simply disallow guest access, as described in “Allowing or Denying Guest Access” earlier in this chapter, and assign the privileges you want to Everyone.

Access privilege strategies

By granting certain access privileges to some people and different access privileges to others, you can effectively control who can do what with the files you share. The following is a list of frequently used configurations that may be useful to you. Of course, you can combine privileges in any way you like.

■ **Allow all users on the network all privileges:**

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User/Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Everyone	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

If guest access is allowed on the server, then you can let anyone on the network see, open, read, or change what’s in the folder or disk. If guest access is not allowed, then only registered users have access to the files. The following set of privileges also provides the same results because “Everyone” includes registered users:

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User/Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Everyone	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

■ **Share with one other person or group:**

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User/Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Everyone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To share a folder with one other person or with one group of people on the network, first select the user or group and then allow all access privileges to that user or group. Finally, remove privileges for Everyone.

■ **Keep a folder private but allow others to drop files or folders into it:**

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User/Group	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Everyone	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

You can set up a folder to act as a “drop folder,” which allows network users to place files or folders into it but does not allow anyone to see, remove, or change its contents. You can set privileges in this way only for folders within shared disks and folders.

■ **Post information like a bulletin board:**

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User/Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Everyone	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

You can set up a folder to act like a bulletin board, allowing people to open and read files but preventing them from changing the files.

■ **Keep a folder or disk on the network private:**

	See Folders	See Files	Make Changes
Owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User/Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Everyone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To allow yourself full access to a folder or disk on the network while preventing anyone else from opening, using, or even seeing its contents, select all privileges for Owner only.

Privileges users need to work with files and folders

Users must have sufficient privileges to work with files and folders in a shared folder or volume. The following table shows the minimum types of privileges you need to assign for a folder called News before users can perform each of the frequently used operations that are listed.

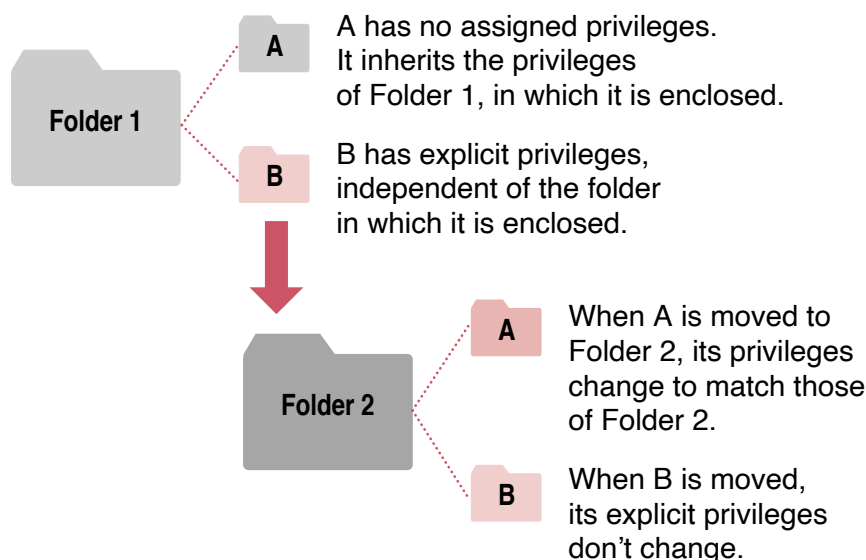
Action	See Folders	See Files	Make Changes
Copy or move to News	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Copy a file from News	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Copy a folder from News	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create a folder in News	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Delete a file from News	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Delete a folder from News	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Open and use a file in News	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Save changes to a file in News	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Explicit and inherited access privileges

If you don't assign access privileges, AppleShare assigns default (preset) privileges. The default access privileges for a volume are restricted to the administrator only. The administrator can see folders, see files, and make changes. No one else can do anything.

The default privileges for a folder are different from those for a volume. When you create a new folder, you can assign the folder *explicit access privileges* (you can select See Folders, See Files, and Make Changes in any combination for Owner, User/Group, and Everyone). Explicit privileges remain with the folder regardless of where you drag it.

A folder that is not assigned explicit access privileges has *inherited access privileges*. This folder automatically takes on the User/Group and Everyone privileges of any folder (or volume) into which it's moved. These privileges change if you move the folder into another folder with different privileges. The following figure shows the process in action.



Note that ownership and ownership privileges don't change unless you change them, or unless the folder can inherit privileges and is then moved to a folder owned by someone else.

Starting the AppleShare File Server program

Now that you've set up users and groups and set access privileges for the volumes and folders you plan to share, you're ready to start file service. You can leave the AppleShare Admin program open or you can quit the program.

You don't need to run AppleShare Admin unless you have administrative work to perform. If you keep the program closed, no one can open it without the Admin Key. However, for maximum data security, keep the server computer in a locked room.

IMPORTANT Do not turn on virtual memory on your server computer. Virtual memory is not compatible with AppleShare 4.2.

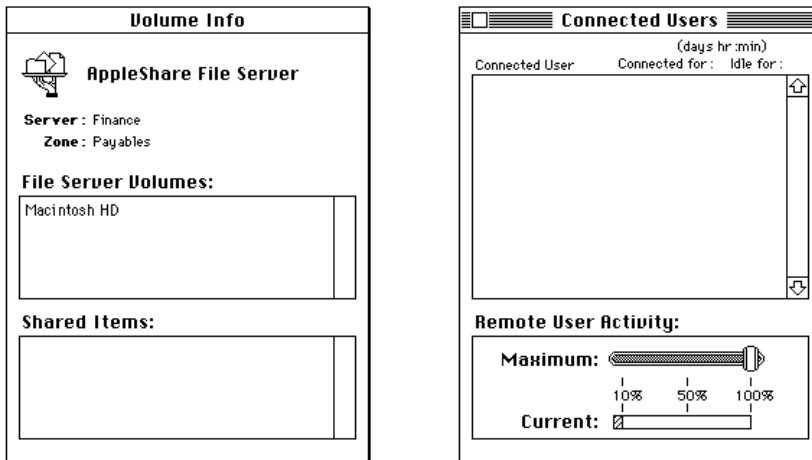
To start the AppleShare File Server program:

- **Choose the AppleShare File Server program alias from the Apple menu.**

A dialog box appears on your screen:



In a while, these two windows appear on your screen:



The Volume Info window displays the name of the file server, the zone it's in, and the volumes and folders you shared. The Connected Users window shows the name of any users logged on to the file server (you shouldn't have any at this point) and the Remote User Activity box, which you manipulate to modify file server responsiveness. (For more information on the Remote User Activity box, see the section "Controlling File Server Activity" in Chapter 3, "File Server Supervision.")

Getting users ready to use the file server

Although users can access your AppleShare 4.2 server by using the workstation software supplied with their system software, for maximum performance they must do the following:

- Install Macintosh system software version 7.5.1 or later, which is available from any Apple-authorized reseller. If users have System 7.5, you can place the System 7.5 Update installer on the server (available in the System 7.5 Update 1.0 folder on the *AppleShare 4.2* CD-ROM disc) and users can run the installer over the network to update their system software to version 7.5.1.
- Install Network Software 1.5.1, which is available in the Workstation Software 3.6.1 folder on your server.
- Install the client software for AppleShare 4.2, Workstation Software 3.6.1, which is available in the Workstation Software 3.6.1 folder on your server.

IMPORTANT Before users can install software from the server, you must share the System 7.5 Update 1.0 folder and the Workstation Software 3.6.1 folder.

Complete instructions for workstation users to install and use AppleShare are available in the *Workstation User's Guide*, which is located in the Workstation Software 3.6.1 folder on your server. You can make this information available for use on-screen or print out copies for your users. For System 7.5.1 users, information about using file servers is provided in the Macintosh file-sharing portions of *Macintosh Guide*. AppleShare Client for Windows users can refer to *Getting Started With AppleShare Client for Windows*.

General considerations

Regardless of computer type, all users' computers need to be connected to the network correctly, using the proper cables and communication software. For Macintosh or IBM PC-compatible computers, consult the appropriate computer user's guide.

As the server administrator, you'll need to field questions on access privileges, folder creation, program use, password changing, and numerous other server subjects. Although all these topics are covered in the AppleShare workstation user's guides, people will still turn to you for answers. To make things easy on yourself, you'll probably find it useful to familiarize yourself with each of the user's guides.

Macintosh users

Macintosh users should use AppleShare Workstation 3.6.1 or later, and can install the software over the network by logging on to the file server and installing the contents of the Workstation Software 3.6.1 folder from the server computer.

Note: Although users can log on to the file server without installing the latest workstation software, you should nevertheless install (or request that users install) AppleShare workstation software on all workstation computers. Without the workstation software installed, users will not be able to receive the full range of AppleShare server messages, nor will they be able to use the enhanced password security and performance features of AppleShare 4.2.

IBM PC-compatible users

Users working with IBM PC-compatible computers who want to use the file server need AppleShare-compatible product solutions that allow them to communicate over AppleTalk networks, such as AppleShare Client for Windows. Ask your Apple-authorized reseller or representative for more details.

Installing workstation software over the network

You can make the workstation software available on the file server for installation over the network, which is the fastest and most convenient method of software distribution. To do so, simply share the Workstation Software 3.6.1 folder, which is located on your server or on the *AppleShare* 4.2 CD-ROM disc. Be sure to tell users that the folder is located on the server and that they can run the Installer directly over the network (they don't need to copy the Installer to their own systems).

3

File Server Supervision

Once you have the server up and running, AppleShare provides you with a number of ways of managing the server. This chapter describes your management options, including:

- modifying user and group information
- changing access privileges
- setting server and user preferences
- monitoring file server usage
- adjusting file server performance
- communicating with users

Changing names and passwords

You can change a user's name and password at any time. Be sure to tell users you have done so, or they won't be able to log on to the file server. Users can also change their passwords from their own workstations (if you selected the Change Password Enabled option in the user's User Information window). It isn't usually a problem if they don't tell you what the new password is, because AppleShare keeps track of the change.

You don't have to change the password and name at the same time; the following procedure works for changing either or both.

Note: The administrator and users generally change passwords for different reasons. The most common reason for an administrator to change a password is because a user has forgotten it and can't log on to the server. The most common reason for a user to change his or her password is because doing so is suggested or required for security. You'll probably not want to change everyone's password on a regular basis, as it's much easier to have users do this for themselves.

To change names and passwords:

- 1 Start the AppleShare Admin program.**
Choose the AppleShare Admin program alias from the Apple menu.
- 2 Choose User List from the Users menu.**
The User List window appears.
- 3 Double-click the user's name in the User List to open the User Information window.**
- 4 Select the current name in the User Information window and type a new one.**

- 5 Select the current password in the User Information window and type a new one.**

You won't actually see the current password—just the dots that represent it. You'll see the new password until you click Save, when it too changes to dots.

- 6 Click Save.**

AppleShare saves the new information.

Assigning a different Owner or User/Group

To change the owner or the users of a folder or volume:

- 1 Start the AppleShare Admin program, if it isn't already on.**
Choose the AppleShare Admin program alias from the Apple menu.
- 2 Choose User List from the Users menu or Group List from the Groups menu.**

The User List or Group List window appears.

- 3 Choose Access Information from the Privileges menu.**

The Access Information window appears.

- 4 Select a volume, or a folder from within a volume, from the Volumes list for which you want to reassign ownership or change the user/group.**

Double-click the icon of the volume to see the folders within it.

- 5 Select the new user from the User List or group from the Group List and drag the icon of the user or group to the Owner or User/Group box in the Access Information window.**

- 6 Click Save.**

The new user or group replaces the old.

Clearing the User/Group box

To remove the user or group you have assigned privileges to, without naming a replacement:

- 1 Start the AppleShare Admin program, if it isn't already on.**
Choose the AppleShare Admin program alias from the Apple menu.
- 2 Choose Access Information from the Privileges menu.**
The Access Information window appears.
- 3 Select a volume, or a folder from within a volume, from the Volumes list for which you want to clear the User/Group box.**
Double-click the icon of the volume to see the folders within it.
- 4 Select the user or group you want to remove in the User/Group box.**
- 5 Choose Clear User/Group from the Privileges menu.**
The name in the User/Group box disappears.
- 6 Click Save.**

Deleting users

To delete a user:

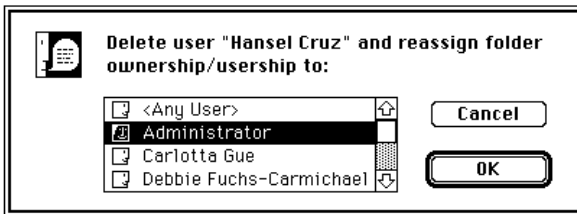
- 1 Start the AppleShare Admin program.**
Choose the AppleShare Admin program alias from the Apple menu.
- 2 Choose User List from the Users menu.**
The User List window appears.

3 Select the user or users you wish to delete.

If you want to delete users whose names appear in order in the User List, you can drag through their names. If you want to delete users from different sections of the list, you can Shift-click to select their names.

4 Choose Delete User from the Users menu.

A dialog box similar to the following one appears:



5 Assign folder ownership to another user or group.

Select the name of the user or group you're reassigning ownership to. If you're deleting several users at the same time, you have to assign all of their folders to the same new owner. As the administrator, your name is always chosen by default, but you can select the name of another user or group.

WARNING Choosing <Any User> makes the folders generally available. Any registered user can then claim ownership.

6 Click OK.

The users are removed from the User List and the ownership of their folders is transferred.

Revoking group membership and deleting groups

Workgroups often change with time, so a user's membership in a group may become inappropriate, or the group itself may have fulfilled its mission. When this happens, you can revoke group memberships or delete the group itself.

Revoking membership

Revoking membership in a group has no effect on membership in other groups, as memberships are assigned separately.

To revoke group membership:

- 1 Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

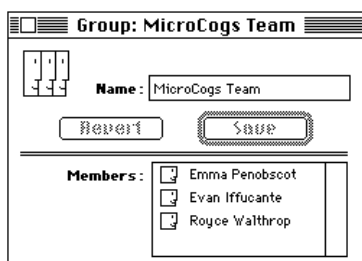
- 2 Choose Group List from the Groups menu.**

The Group List window appears.

- 3 Select the group in the Group List.**

- 4 Choose Group Info from the Groups menu.**

Or double-click the group name. The group window appears, with the members listed in the Members box.



- 5 Select the member or members you want to remove from the group.**

- 6 Choose Revoke Membership from the Groups menu.**

Deleting groups

When you delete a group, any folders or volumes for which it had access privileges may be accessible only by their owners until another group (or individual user) is assigned to them.

To delete a group:

- 1 Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

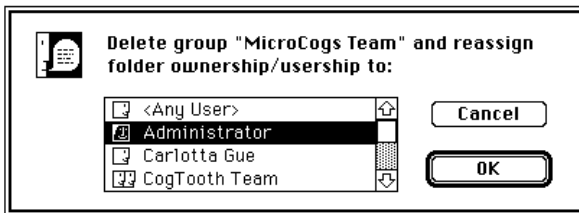
- 2 Choose Group List from the Groups menu.**

The Group List window appears.

- 3 Select the group in the Group List.**

- 4 Choose Delete Group from the Groups menu.**

A dialog box similar to the following one appears:



- 5 Assign folder ownership to another group or user.**

Select the name of the user or group you're reassigning ownership to.

If you're deleting several groups at the same time, you have to reassign all of their folders to the same new owner. As the administrator, your name is always chosen by default, but you can select the name of another user or group.

- 6 Click OK.**

The groups are removed from the Group List and the ownership of their folders is transferred. This may take some time, as AppleShare Admin sorts through each folder and shared disk to see if the group has access privileges for it, deleting the group from each record in turn.

Changing access privileges

You can change access privileges by:

- reassigning the access privileges you set in the Access Information window
- requiring that a folder inherit the privileges of the folder in which it's enclosed
- automatically changing access privileges assigned to each of the folders within a folder to be the same as the privileges assigned to the enclosing folder

The following sections explain each of these ways of modifying access privileges.

Reassigning access privileges

To reassign access privileges:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

2 Choose Access Information from the Privileges menu.

The Access Information window appears.

3 Select a volume, or a folder from within a volume, for which you want to reassign access privileges.

Double-click the icon of the volume to see the folders within it. You may have to scroll through the list to find the volume or folder you want.

4 Make sure the “Same as Enclosing Folder” checkbox is deselected (an X should not appear in the checkbox).

5 Reassign the privileges as appropriate.

Click the privilege boxes to select or deselect privileges. You can allow the owner, a group of users, or everyone to see files, see folders, and make changes, or you can limit any of these privileges as you choose. An X in a box means the privilege is assigned; an empty box means the privilege is denied.

6 Click Save.

Setting a folder to inherit the privileges of its enclosing folder

To set a folder to inherit the privileges of its enclosing folder:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

2 Choose Access Information from the Privileges menu.

The Access Information window appears.

3 Select a folder from the Volumes list.

Double-click the icon of the volume to see the folders within it.

4 Click the “Same as Enclosing Folder” checkbox to place an X in it.

As long as this option is selected, regardless of what privileges you’ve set or where you move the folder, it will inherit the privileges of the folder in which it is placed.

5 Click Save.

Changing folder privileges to those of the enclosing folder

To change folder privileges to those of the enclosing folder:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

2 Choose Access Information from the Privileges menu.

The Access Information window appears.

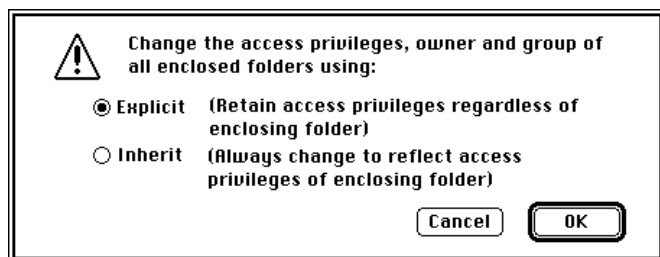
3 Select a folder from the Volumes list.

Double-click the icon of the volume to see the folders within it.

The folders enclosed within the folder you select will be assigned this enclosing folder’s access privileges.

- 4 Click the **Change All Enclosed Folders** checkbox to place an X in it.
- 5 Click **Save**.

The following alert box appears:



- 6 Click the **Explicit** or **Inherit** button.

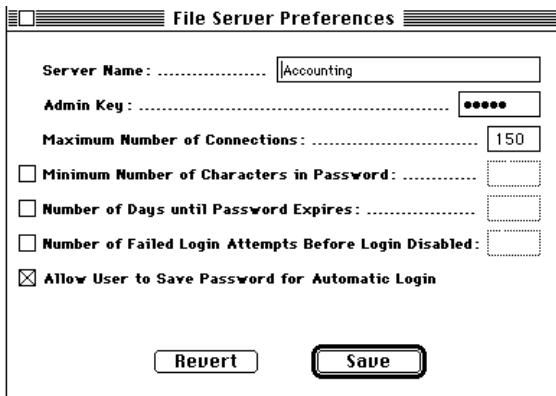
If you click the Explicit button (which is selected by default), the folders will retain the privileges of their original enclosing folder no matter where you move them. If you click the Inherit button, the folders automatically inherit the privileges of the enclosing folder in which they are located. If you move one of the enclosed folders elsewhere, it inherits the privileges of the new enclosing folder.

- 7 Click **OK**.

Setting preferences

The AppleShare Admin program lets you modify several server characteristics and user capabilities. Using the File Server Preferences window, you can

- change the server's name and Admin Key
- limit the number of users who can connect at any one time
- help registered users keep their passwords secure by setting a minimum password length and by requiring that they change their passwords often
- set the number of times a user can attempt to log on to the server before his or her login is disabled
- allow users to mount volumes automatically without being prompted for a password



The following sections explain how to set your preferences.

Changing the server's name and Admin Key

You can change the server's name and Admin Key at any time. If you change the server name, you need to be sure to tell users you have done so or they won't be able to find the file server. You don't have to change the name and Admin Key at the same time; this procedure works for changing either or both.

To change the server's name and Admin Key:

- 1 Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

- 2 Choose File Server Preferences from the Server menu.**

The File Server Preferences window appears.

- 3 Select the current name in the Server Name box and type a new name.**

- 4 Select the current Admin Key in the Admin Key box and type a new Admin Key.**

- 5 Click Save.**

The change takes effect immediately.

Changing the maximum number of concurrent connections

This option lets you limit the number of users who can connect at any one time. Those who try to log on after the maximum has been reached see a message indicating that the file server has reached its maximum and users are directed to try again later.

To change the maximum number of concurrent users:

- 1 Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

- 2 Choose File Server Preferences from the Server menu.**

The File Server Preferences window appears.

- 3 Type any number from 0 to 250 in the “Maximum Number of Connections” box.**

If you enter 0, only you—the administrator—can log on to the file server.

- 4 Click Save.**

The change takes place the next time you restart the AppleShare File Server program.

Setting a minimum password length

If you allow registered users to change passwords from their workstations (by checking the Change Password Enabled checkbox in the User Information window), you may want to help users keep their passwords secure by setting a minimum password length. Note that by setting the minimum number of characters in a password to a larger number (seven or eight), you can ensure that each user will create a password that is relatively difficult for others to guess.

To set a minimum password length:

- 1 Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

- 2 Choose File Server Preferences from the Server menu.**

The File Server Preferences window appears.

- 3 Select the “Minimum Number of Characters in Password” option (click the left-hand checkbox).**

An X appears in the checkbox.

- 4 Type a minimum password length (up to eight characters) in the “Minimum Number of Characters in Password” box.**

- 5 Click Save.**

The change takes effect immediately.

Users that type a password with less characters than what is specified in the “Minimum Number of Characters in Password” box receive a notification that they must use a longer password.

Setting password expiration

If you allow registered users to change passwords from their workstations (by checking the Change Password Enabled checkbox in the User Information window), you can help users keep their passwords secure by requiring that they change their passwords often.

To set the number of days before user passwords expire:

- 1 Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

- 2 Choose File Server Preferences from the Server menu.**

The File Server Preferences window appears.

- 3 Select the “Number of Days until Password Expires” option (click the left-hand checkbox).**

An X appears in the checkbox.

- 4 Type the number of days you want to elapse before users have to change their passwords in the “Number of Days until Password Expires” box.**

- 5 Click Save.**

The change takes effect immediately.

Setting the number of failed login attempts

You can control how many times a user can attempt to log on to the server and fail to do so before his or her login is disabled. This is a security feature that ensures someone doesn't have an endless number of attempts at guessing at how to log on to the server.

Although this option is a security feature, be sure not to set the number of failed login attempts too low. If you set a low number, someone who has momentarily forgotten a password or who makes a typing error may have his or her login disabled.

If a user's account is disabled because of too many failed login attempts, the Login Enabled checkbox in the User Information window is deselected. To reinstate the user's login account, open the User Information window and click the Login Enabled checkbox.

To set the number of failed login attempts:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

2 Choose File Server Preferences from the Server menu.

The File Server Preferences window appears.

3 Select the “Number of Failed Login Attempts Before Login Disabled” option (click the left-hand checkbox).

An X appears in the checkbox.

4 Type the number of login attempts you'll allow a user before his or her login is disabled in the “Number of Failed Login Attempts Before Login Disabled” box.

5 Click Save.

The change takes effect immediately.

Allowing users to save passwords for automatic login

Registered users can set an option that allows them to mount server volumes automatically every time they start their computers. Once the option is set, a volume will be automatically mounted after the user enters his or her password. However, you can set up the server so that users can mount volumes automatically without being prompted for a password.

IMPORTANT Allowing users to log on to the server automatically without typing a password can pose a security risk because anyone can use a user's computer to gain access to private information on the server. The option is selected by default in the File Server Preferences window; if you feel that it is a security problem, deselect it by clicking the checkbox to remove the X.

To allow users to save passwords for automatic login:

- 1 Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

- 2 Choose File Server Preferences from the Server menu.**

The File Server Preferences window appears.

- 3 Verify that the “Allow User to Save Password for Automatic Login” option is selected (the left-hand checkbox should have an X in it). If it isn't selected, click the checkbox.**

An X appears in the checkbox.

- 4 Click Save.**

The change takes effect immediately.

Sending file server messages

You can send four kinds of messages to file server users:

- greetings that all users see when they log on to the file server
- messages to one or more specific users
- shutdown messages that tell users when the file server is shutting down, with additional explanations as needed
- disconnection messages, informing a particular user or group of users that they are being disconnected from the file server, with additional explanations as needed

IMPORTANT DOS users and Windows users who are not using AppleShare Client for Windows cannot receive file server messages. Some Macintosh users may not receive greeting messages, depending on the version of AppleShare workstation software installed on their systems. See the *Workstation User's Guide* for instructions on installing current workstation software.

The procedures for sending greetings and user messages are given in the next few sections. Shutdown messages are discussed in the section “Quitting and Restarting File Service” later in this chapter. Disconnection messages are discussed in “Disconnecting Users” later in this chapter.

Note: Whenever a message window is open, you can edit the message using the Undo, Cut, Copy, and Paste commands in the Edit menu.

Greetings

To set a greeting message that users will receive whenever they log on to the file server:

1 Start the file server, if it is not already running.

Choose the AppleShare File Server program alias from the Apple menu.

2 Choose Set Greeting from the Server menu.

The Greeting Message dialog box appears:



3 Enter the greeting and click OK.

Enter a greeting of up to 199 characters in the scrollable window.

All Macintosh users see this greeting when they log on to the file server. You can change it any time by choosing Set Greeting again. The old greeting appears in the box; you can delete the old message and type a new one in its place.

Note: You do not have to create a new greeting each time you start up file service. Greetings are stored with the program between file server sessions and become active again each time you start the file server program.

Specific user messages

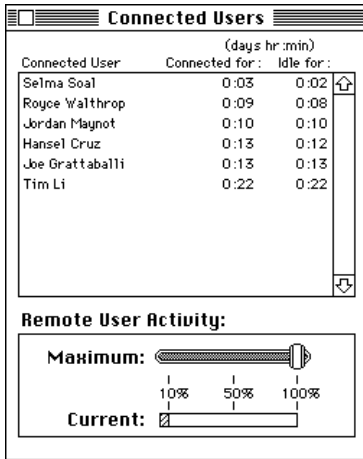
To send messages to any connected Macintosh user or group of Macintosh users, or to any IBM PC-compatible user or group of users running AppleShare Client for Windows:

1 Start the file server, if it is not already running.

Choose the AppleShare File Server program alias from the Apple menu.

2 Choose Show Connected Users from the Server menu.

The Connected Users window appears, showing a list of connected users:



3 Click the name of the user (or users) you wish to communicate with.

4 Choose "Send Message to User" from the Server menu.

The User Message dialog box appears:



5 Type a message of up to 199 characters and click OK.

The message appears on the selected user's screen.

Quitting and restarting file service

You may need to quit AppleShare file services periodically. You don't have to switch off the server computer when you quit file service. You can keep other services available even when file service is temporarily discontinued.

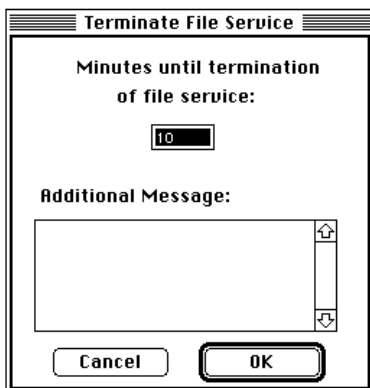
IMPORTANT Never quit file service by switching off the server computer. If you do, connected users may lose unsaved information. Always follow the procedures as described here.

Quitting file service

To quit file service:

- 1 Choose Quit from the File menu.**

The Terminate File Service dialog box appears:



- 2 Type the number of minutes until shutdown.**

The preset time until shutdown is 10 minutes. You can enter any time from 0 to 4094 minutes, or about 68 hours. Users who haven't logged off at shutdown lose any information they haven't saved, so you should pick a time that gives them adequate warning.

3 Type any additional message you wish to send.

This step is optional. The AppleShare File Server program will notify all connected users that file service will be terminated in the number of minutes you just entered. If you choose to enter an additional message, it can be up to 199 characters and will be received by every connected user along with notification that file service will be terminated.

4 Click OK.

Every connected user receives a standard shutdown warning, giving the time until shutdown. Users with the current AppleShare workstation software will also receive your additional message, if you sent one.

If the time you enter is greater than an hour, the warning is repeated once per hour until the final hour, every ten minutes during the final hour, and then at five minutes, two minutes, and one minute before service is halted. Users can't connect to the file server during the final five minutes.

Restarting file service

When you are ready to resume file service, you follow much the same procedure as when you started the AppleShare File Server and AppleShare Admin for the first time.

To restart file service:

- 1 If necessary, start up any connected disks or drives that have been shut down and start up the server computer.**
- 2 Choose the AppleShare File Server program alias in the Apple menu.**
- 3 If necessary, choose the AppleShare Admin program alias in the Apple menu.**

As noted earlier, you don't need to run the AppleShare Admin program unless you have administrative work to perform. For security reasons, it's wise not to leave Admin running and unattended unless the server is in a locked room.

Note: You can automate restarting by dragging the AppleShare File Server icon, or an alias of the icon, into the Startup Items folder. This way the program starts automatically when you start up the server computer. Some computers have a power switch that you can turn to a “locked” position, which allows the server computer and the AppleShare File Server program to start automatically after a power failure. For more information about the Startup Items folder, see Macintosh Guide. For more information about the server computer’s power switch, see the setup documentation that came with the computer.

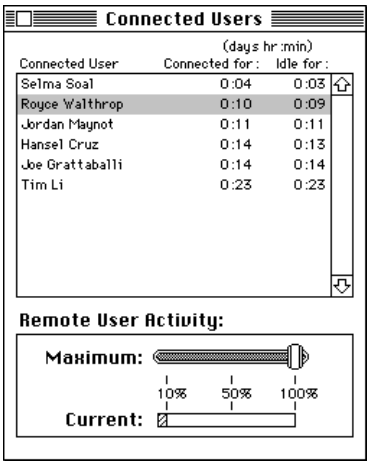
Disconnecting users

To disconnect one or more users from the file server without disrupting other users:

- 1 In the AppleShare File Server program, choose Show Connected Users from the Server menu.

The Connected Users window presents a list of all users currently logged on to the file server.

- 2 Select the user (or users) from the Connected User list.



3 Choose Disconnect User from the Server menu.

The Disconnect User dialog box appears:



4 Type the number of minutes you want before the user is disconnected, and an optional message, and click OK.

Unless you specify otherwise, AppleShare disconnects the selected users after 10 minutes. You can enter any time from 0 to 4094 minutes, or about 68 hours.

A message announcing that disconnection will take place at that time is automatically included. If you want, you can also include an explanatory message of up to 199 characters.

At the specified time, the users are disconnected.

Monitoring file server usage

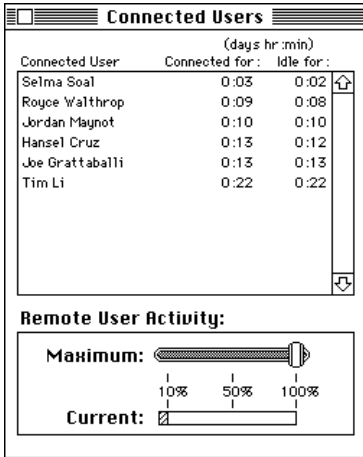
AppleShare allows you to observe either current file server usage or usage that has occurred over time. You can monitor file server usage by viewing the Connected Users window or by using the file server log.

Using the Connected Users window

The Connected Users window lets you see a snapshot of current server use.

- **In the AppleShare File Server program, choose Show Connected Users from the Server menu.**

The Connected Users window appears:



The top of the Connected Users window displays the names of connected users, the amount of time they've been connected, and the amount of time they've been idle.

The Remote User Activity box at the bottom of the Connected Users window gives you a dynamic measure of server activity. In the box are two scales. The Current scale (the lower scale) indicates the percentage of the server computer's performance that is currently being devoted to processing file server requests. The Maximum scale (the upper scale) allows you to adjust the maximum percentage of processing the server should devote to file server activity.

Note: To find out how to adjust the Maximum scale, see the section "Controlling File Server Activity" later in this chapter.

Using the file server log

When you start the AppleShare File Server program, you see a number of status messages. The contents of these messages are recorded in the file server log. The log includes dates and times of startup for both the AppleShare File Server and Admin programs, and the number of connected hard disks.

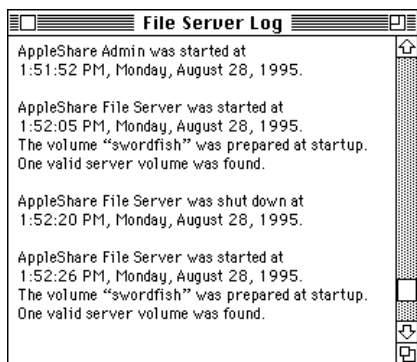
To use the file server log:

- 1 Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

- 2 Choose File Server Log from the Server menu.**

The log file appears, scrolled to the end to show the most recent entries. You can scroll toward the top of the file to see earlier entries if you wish. AppleShare sets a limit of 32K on the size of the file, so it deletes earlier records if needed to make space available.



The file server log file is a SimpleText file and can be opened with the SimpleText program. It can also be converted into any other word-processing format that can convert text files. You can find the log file in the startup disk's System Folder.

Creating and using AppleShare reports

The AppleShare Admin program provides two types of reports: file server reports and shared-item reports.

File server reports

- list all connected hard disks or drives and show the space available on each
- list registered users and show what groups they belong to
- tell how many files and folders each user maintains and how much space the files and folders occupy

Shared-item reports

- list the folders on a shared volume or folder, the names of their enclosed files and folders, the access privileges, the owner, and the associated group for each folder
- show if a folder is locked or unlocked and if a file is copy-protected

Both file server and shared-item reports are available in either complete or summary form. The complete versions contain everything listed. The file server summary shows disk use and users and groups only, omitting file and folder data; the shared-item summary shows folder information only, omitting file data.

By studying reports, you can determine if hard disks or volumes are being underused or overused, giving you an early warning of when to reclaim some disk space or when to add new equipment. You can remind yourself of group membership at a glance, and you have a handy reference for user queries. You can see if users are wasting space by keeping multiple copies of documents on the file server.

AppleShare reports are saved as SimpleText files, so you can open, view, or print them with SimpleText, or with most word-processing programs.

To create a report:

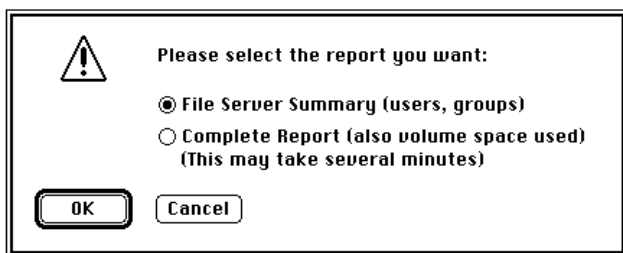
1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

2 If you want to create a shared-item report, choose Access Information from the Privileges menu and, in the Access Information window that appears, select an item in the Shared Items list.

3 Choose File Server Report from the Server menu or Shared Item Report from the Privileges menu.

An alert box appears:



4 Select File Server (or Shared Item) Summary or Complete Report and click OK.

A dialog box appears, in which you can name the report and select where to store it.

5 Select the folder in which you want to save the report.

It's probably most convenient to create a special Reports folder. You can, however, save the report wherever you wish.

6 Type a name for the report and click Save.

You will probably want to use a name that reflects the type of report and the date of its creation.

The report is saved as a text file in the designated folder.

Using other programs on your server computer

You can use your server computer to run other programs simultaneously with AppleShare. However, depending on the type of programs you run and the amount of memory they consume, running other programs may adversely affect your server performance. AppleShare allows you to make adjustments so that other programs besides the AppleShare programs can run efficiently on your computer. See the next section, “Adjusting File Server Performance,” for more information.

Adjusting file server performance

Over time, demands for file service may increase or decrease, and you may want to adjust server performance accordingly. The AppleShare File Server and Admin programs provide a number of methods to adjust server performance.

Using the AppleShare Admin program, you can limit the amount of random-access memory (RAM) devoted to other programs running on the server; the file server can then use all other available RAM for its cache, which enables faster server performance. Server performance may also be enhanced by freeing up disk space. The Admin program provides two ways to free up hard disk space: by periodically emptying network Trash and by compacting volume access privileges.

The AppleShare File Server program allows you to control file server activity by setting the maximum percent of processing the server provides for connected user activity.

You can also raise or lower the number of users who can connect to the file server at any one time. For more information, refer to “Changing the Maximum Number of Concurrent Connections” earlier in this chapter.

IMPORTANT Server performance depends on a number of interacting factors: the amount of RAM available in the server computer, the type of network used, the number of users, the type of work users perform on the server, and the amount of other work you do on the machine. The features described in the next few sections provide simple ways of meeting changing performance needs. If these are not adequate, you may need to consider adding RAM, purchasing more powerful equipment, or changing to a faster network type.

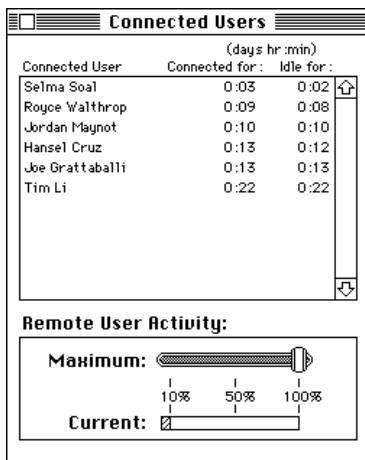
Controlling file server activity

Because you can run multiple programs simultaneously on the server computer, you can use the same server computer for file service and for other tasks of your own choosing. You can adjust the server computer's performance by adjusting the maximum percent of processing the server devotes to file server activity. This may be necessary if you run other services—AppleShare Print Server, electronic mail services, and so on—on your server computer.

To control file server activity:

- 1 Start the AppleShare File Server program, if it is not already running.**
Choose the AppleShare File Server program alias from the Apple menu.
- 2 Choose Show Connected Users from the Server menu.**

The Connected Users window appears:



3 Drag the Maximum scale slide bar in the Remote User Activity box to the desired setting.

Moving the slide bar to the right—to a higher percentage—increases the processing time the server computer gives to file server demands, thus increasing file server performance (though possibly lowering performance on other programs). Moving the slide bar to the left—to a lower percentage—decreases the preference the server gives to file server demands, thus decreasing file server performance and freeing up more of the server computer's processing for other services or for local work.

The change in setting takes effect immediately.

Setting cache preferences

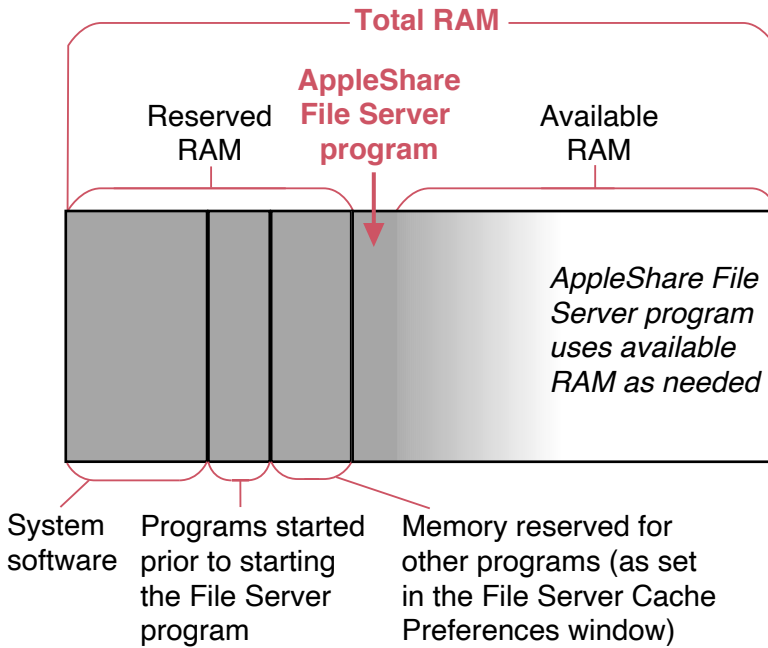
Cache is a portion of random-access memory (RAM) used for storing frequently used files, folders, and icons. Because cached items are already in RAM, access to them is faster than if they are read from a storage device each time they are used.

Using the AppleShare Admin program, you can set aside a portion of the server computer's RAM for other programs besides the File Server program; all other RAM will then be devoted to the file server as needed. The default cache set aside for other programs is 1 megabyte. This procedure is described in the next section, "Setting the Preferences."

If you are unable to open a program (besides the AppleShare File Server program) because not enough memory has been allocated, you can use the AppleShare File Server program to flush the cache temporarily. This procedure is described later in this chapter in the section "Resetting the Cache."

Note: If you're not planning on using the server computer to run many other programs besides AppleShare, lowering the amount of RAM reserved for other programs may improve file server performance.

The following illustration shows how RAM is apportioned using the cache preferences feature. Note that a set portion of RAM is reserved for system software as well as programs started prior to starting the AppleShare File Server program. A set portion of RAM is reserved for other programs besides the file server software; this amount is set in the File Server Cache Preferences window. The File Server program uses all available RAM as needed.



Setting the preferences

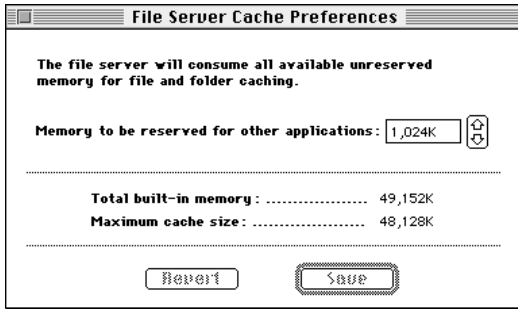
To set cache preferences:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

2 Choose File Server Cache Preferences from the Server menu.

The File Server Cache Preferences window appears.



3 In the “Memory to be reserved for other applications” box, click the arrows to reach the amount of memory to be used by other programs besides AppleShare.

The memory amount increases or decreases in 512K increments.

Remember that increasing this setting and thus the amount of memory reserved for other application programs may decrease server performance.

4 Click Save.

The new settings go into effect immediately.

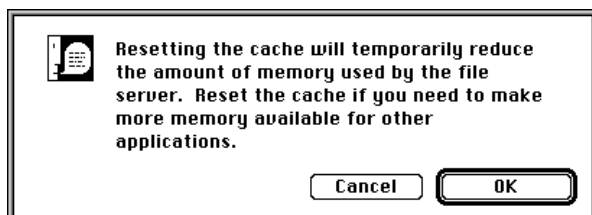
Resetting the cache

You can flush the cache temporarily if you need memory to open another program (or programs) besides the File Server program. Once you reset the cache, you can start the other program. After you’ve quit the program, cache that had been reserved for the program is assigned to the File Server program and other programs according to the setting in the File Server Cache Preferences window.

To reset the cache:

- 1 **In the File Server program, choose Reset Cache from the Server menu.**

The following alert box appears:



- 2 **Click OK.**

Compacting volume access privileges

One way to conserve disk space is to compact volume access privileges. Compacting volume access privileges replaces explicit access privileges with inherited ones for folders whose explicit privileges are the same as those of their enclosing folders. Replacing explicit with inherited privileges compacts the volume because inherited privileges take up much less disk space.

Note: CD-ROM discs are often organized into hundreds of folders, most of which are nested inside other folders. If you assign explicit access privileges for folders on a CD-ROM or for the CD-ROM itself (for instance, by using the Change All Enclosed Folders option in the Access Information window), mounting the CD-ROM can become very slow. You can compact the CD-ROM's access privileges to reduce the time.

To compact access privileges:

- 1 **Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

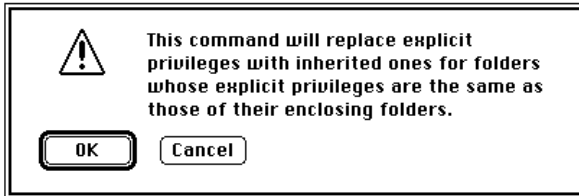
- 2 **Choose Access Information from the Privileges menu.**

The Access Information window appears.

3 Select a volume from the Volumes list.

4 Choose Compact Volume Access Privileges from the Privileges menu.

The following alert box appears:



5 Click OK.

The explicit privileges for all appropriate folders within the volume are cleared, and each folder inherits the privileges of the enclosing folder.

Emptying network Trash

When you start the AppleShare File Server program, an invisible folder, called Network Trash, is automatically created on the server. When users delete files from the file server, those files are stored in a folder within the Network Trash folder. When users empty the Trash on their own computers, the corresponding folder in the Network Trash folder is deleted. However, if users are disconnected from the file server before they have an opportunity to empty their Trash, the folder remains in the Network Trash folder, taking up disk space on the server. You can free up this disk space by occasionally using the AppleShare Admin program's Empty Network Trash command.

To empty network Trash:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

2 Choose Empty Network Trash from the Server menu.

This alert box appears:



3 Click OK.

Limiting program use

AppleShare allows you to limit the number of users who can start a program simultaneously, as you may need to do to meet the licensing requirements of a software-licensing agreement.

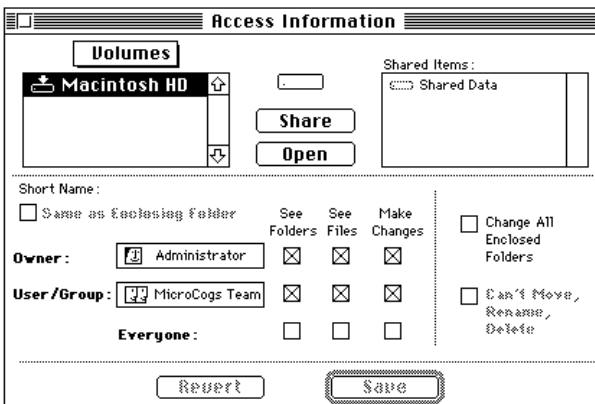
To limit program use:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

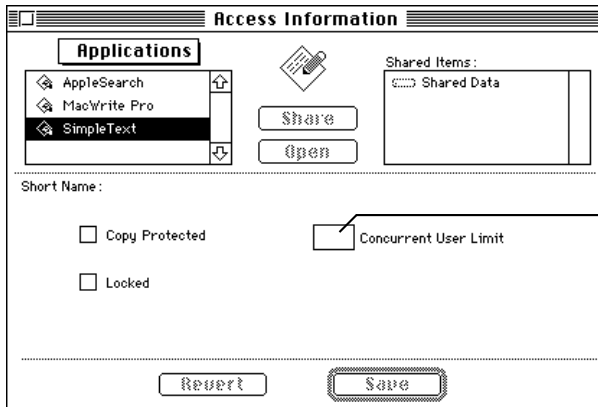
2 Choose Access Information from the Privileges menu.

The Access Information window appears:



3 Select the program that you want to limit use of from the Volumes list.

Double-click the icon of the volume to see the folders and files within it. The lower portion of the window changes.



Enter the number of users here.

4 In the Concurrent User Limit box, enter the desired number of users who can start the program.

The number corresponds to the maximum number of users who can use the program at the same time.

5 Click Save.

If additional users try to start the program, they are instructed to try again later.

Copy-protecting programs and documents

AppleShare allows you to copy-protect any file so that it cannot be duplicated while the file server is running. Copy-protecting allows users to start a program but not to copy it from the file server.

WARNING Copy-protecting programs and documents from within AppleShare prevents users from copying programs and files from the Finder. However, the copy-protection is not foolproof; other software programs that users may have will ignore this setting.

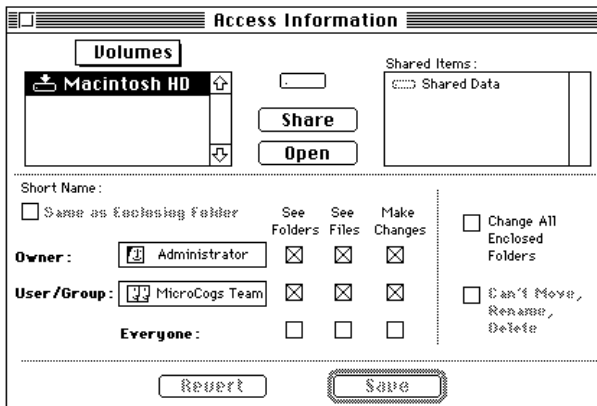
To copy-protect programs and documents:

- 1 **Start the AppleShare Admin program.**

Choose the AppleShare Admin program alias from the Apple menu.

- 2 **Choose Access Information from the Privileges menu.**

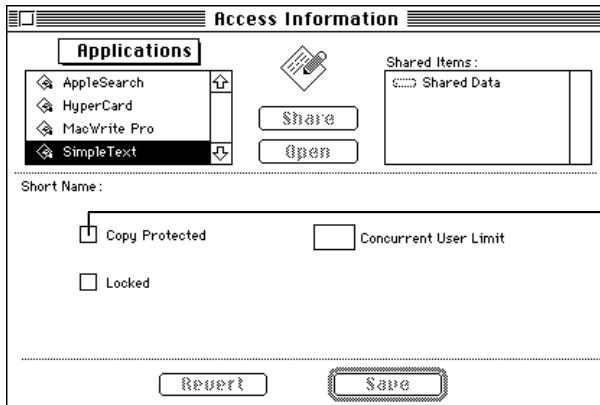
The Access Information window appears:



3 Select the program or document that you want to copy-protect from the Volumes list.

Double-click the icon of the volume to see the folders and files within it. The lower portion of the window changes.

4 Click the Copy Protected checkbox so an X appears.



Click here to copy-protect the program or document.

5 Click Save.

Note: You can copy-protect files only, not folders.

Locking files

Locked files cannot be renamed, discarded, or changed, even by their owner. They can, however, be copied, duplicated, or opened, so the See Folders and See Files privileges you've allowed remain in effect. However, after you lock a file, Make Changes privileges are no longer in effect.

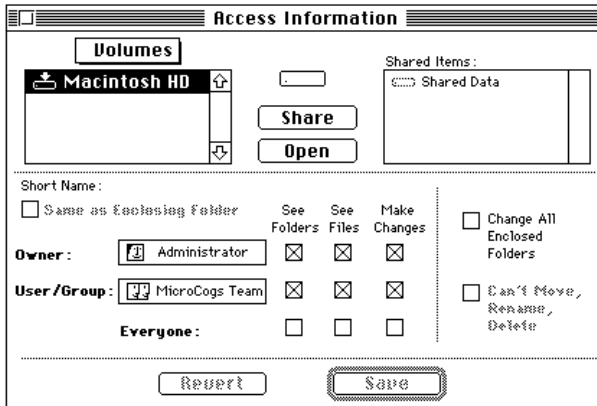
To lock files:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

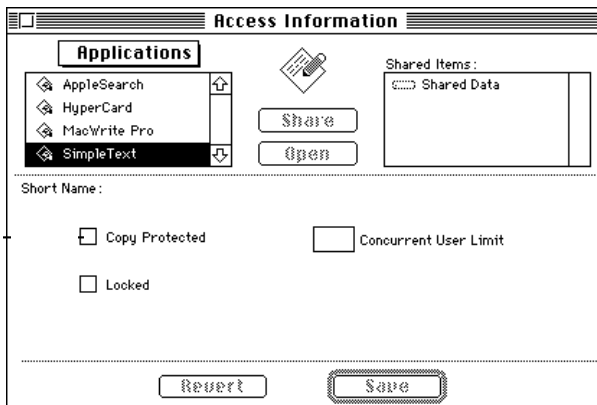
2 Choose Access Information from the Privileges menu.

The Access Information window appears:



3 Select the files you want to lock from the Volumes list.

Double-click the icon of the volume to see the folders and files within it. The lower portion of the window changes.



4 Click the Locked checkbox so an X appears.

5 Click Save.

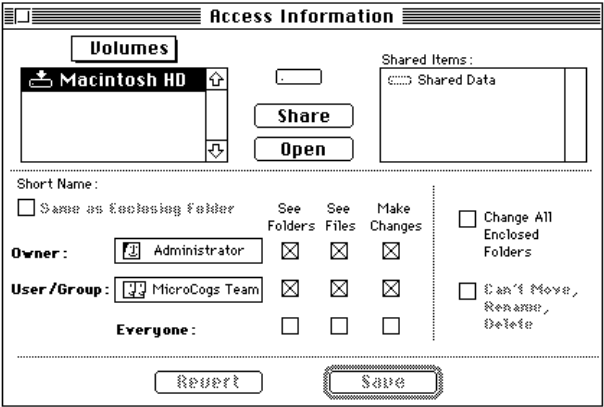
Note: The Locked checkbox in the Access Information window works the same way as the Locked checkbox in the Get Info dialog box in the Finder.

Locking folders

Locked folders cannot be moved, renamed, or deleted while the AppleShare File Server program is running, even by their owner. They can, however, be copied, duplicated, or opened, so the See Folders and See Files privileges you’ve allowed remain in effect. The Make Changes setting applies only to the files inside the folder, not the folder itself.

To lock folders:

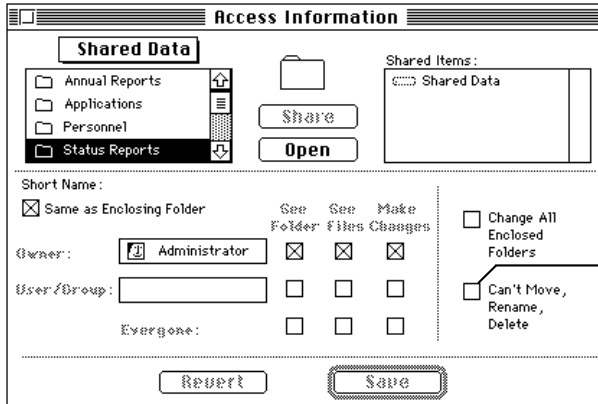
- 1 **Start the AppleShare Admin program.**
Choose the AppleShare Admin program alias from the Apple menu.
- 2 **Choose Access Information from the Privileges menu.**
The Access Information window appears:



3 Select the folder you want to lock from the Volumes list.

Double-click the icon of the volume to see the folders within it.

When you select a folder, the Can't Move, Rename, Delete option in the lower-right corner of the window becomes active.



4 Click the Can't Move, Rename, Delete checkbox so an X appears.

5 Click Save.

Copying files and folders across volumes

You can copy files and folders across volumes from within AppleShare while retaining access privileges by using the "Copy <Item> to" command.

IMPORTANT If you are using the "Copy <Item> to" command to copy a large number of files and folders, it's a good idea to terminate file service beforehand. If you do not terminate file service, response time for server activity is likely to slow down appreciably while you're copying, and workstations may appear to freeze.

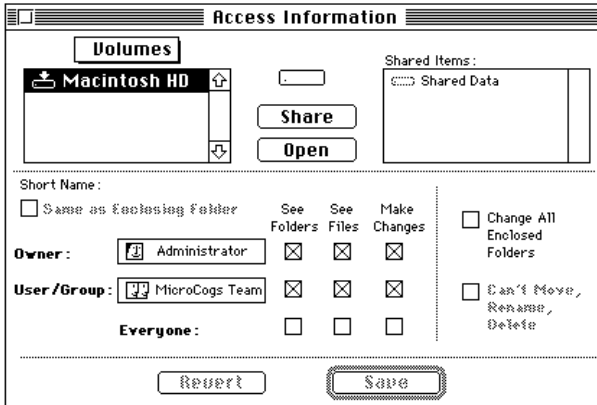
To copy files and folders across volumes:

1 Start the AppleShare Admin program.

Choose the AppleShare Admin program alias from the Apple menu.

2 Choose Access Information from the Privileges menu.

The Access Information window appears:



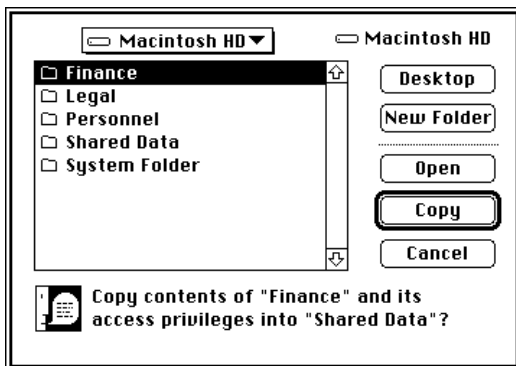
3 Select the file or folder you wish to copy from the Volumes list.

Double-click the icon of the volume to see the folders and files within it.

4 Choose "Copy <Item> to" from the Privileges menu.

The command name changes to reflect the object you are copying.

A dialog box appears, listing potential destination volumes or folders:



5 Select the destination volume or folder and click Copy.

AppleShare copies the entire contents of the selected volume or folder.

Note: You (or a user) can copy files or folders simply by clicking and dragging them onto floppy disks. This won't preserve access privileges unless you use a backup program designed to preserve them. If access privileges are lost, you can restore them manually if you have a current record of them in a shared-item report.

Backing up your Users & Groups Data File

You should back up your Users & Groups Data File. That way, if it gets damaged or lost you won't need to re-register users and re-create groups.

To back up your Users & Groups Data File:

- 1 Open the System Folder on the startup disk for the server computer.**
- 2 Open the Preferences folder.**
- 3 Copy the Users & Groups Data File to a floppy disk.**
- 4 Remove the disk and store it in a safe place.**

Adding hard disks and drives to the file server

To add additional hard disks or CD-ROM drives to the file server:

- 1 Quit the Apple Share File Server and AppleShare Admin programs.**
See "Quitting and Restarting File Service" earlier in this chapter.
- 2 From the Finder, choose Shut Down from the Special menu.**

IMPORTANT Don't connect a peripheral device to the server computer while the server is on. Always shut down the server before connecting peripheral devices to it.

3 Attach the new hard disks or CD-ROM drives and start them up.

Follow the manufacturer's instructions. You may need to install appropriate driver software.

4 Restart the server computer.**5 Restart the AppleShare Admin program.**

The Admin program automatically prepares the hard disks or CD-ROM discs.

6 Share the hard disks or CD-ROM discs if you want the volumes to be available to users.

See the section "Sharing Volumes and Setting Access Privileges" in Chapter 2 for more information.

7 Restart the AppleShare File Server program.

Choose the AppleShare File Server program alias from the Apple menu. The new hard disks or CD-ROM discs can now be shared as volumes and used like any other.

Changing startup disks

At some point, you may want to change startup disks. In addition to installing AppleShare on the new disk, there are additional steps you need to take to maintain your original user accounts and access privileges.

To change startup disks:

1 Connect the hard disk you want to use as the startup disk for the server computer.

Use the instructions in the previous section, "Adding Hard Disks and Drives to the File Server."

2 Install System 7.5.1, network software, and AppleShare software on the new startup disk.

See the documentation that came with your system software to perform the installation. Follow the instructions in Chapter 1 to install network software and AppleShare.

- 3 From the Finder, copy the User & Groups Data File and File Server folder from the Preferences folder on the original startup disk to the Preferences folder on the new startup disk.**

The Preferences folder is inside the System Folder.

IMPORTANT If you have been providing print service from the original startup disk and want to do so from the new startup disk, you also need to copy the AppleShare Print Server folder from the old Preferences folder.

- 4 If you are replacing the original startup disk: From the AppleShare Admin program, copy any other files or folders from the original startup disk to the new startup disk.**

To copy folders to the new startup disk while retaining their access privileges, choose “Copy <Item> to” from the Privileges menu.

This step is necessary only if you are *replacing* the original startup disk. If you plan to use both hard disks, you can skip this step.

- 5 Click the new disk’s icon in the new disk’s Startup Disk control panel.**

Open the Startup Disk control panel, then click the icon of the disk you want to use as the startup disk.

- 6 Choose Restart from the Special menu.**

After the server computer has restarted, you can provide file service from the new startup disk.

Unmounting volumes

You can make a file server volume (CD-ROM discs or hard disks) unavailable, or unmount the volume, without having to quit file service.

Note: You cannot unmount the server’s startup volume.

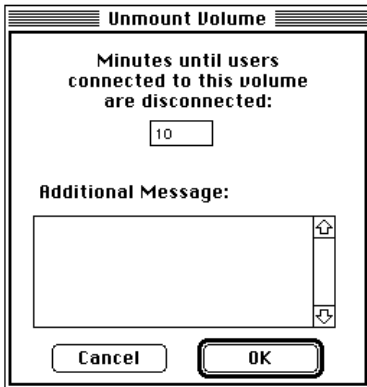
To unmount a volume:

- 1 In the File server program, select the volume you want to unmount in the Volume Info window.**

Select the volume from the File Server Volumes list.

- 2 Choose Unmount Volume from the Server menu.**

The following dialog box appears.



- 3 Enter the number of minutes you want to allow before the volume is unmounted, and an optional message.**

Unless you specify otherwise, AppleShare unmounts the volume after 10 minutes. You can enter any time from 0 to 4094 minutes, or about 68 hours. A message announcing that disconnection will take place at that time is automatically sent to any users connected to the volume. If you want, you can also include an explanatory message of up to 199 characters.

- 4 Click OK.**

At the specified time, users are disconnected, and the volume is unmounted.

IMPORTANT Users cannot log on to a volume after you've begun to unmount it. Users who try to log on will receive a message indicating a problem.

4 **Setting Up Print Service**

In this chapter, you'll learn how to start the AppleShare Print Server program, capture printers for spooling documents over the network, choose print server options, and get users ready to use the print server.

About the AppleShare Print Server program

The AppleShare Print Server program extends server efficiency to printing. When users choose the Print command while the print server is in operation, their documents are spooled to the server computer rather than sent directly to the printer. Spooled documents are placed in a queue and printed sequentially. Users regain the use of their computers quickly because most of the work is handled by the print server. When a print server is added to the network, users experience better service, and their method of printing remains completely familiar: After using the Chooser to select the print spooler they want, they just click Print as usual, and the print server takes care of the rest.

The print server is very easy to run. In many cases, you need do nothing beyond making sure that all printers have paper and toner, and that all users have the same printing software.

This chapter shows you how to get the print server up and running. For additional information on management options and record keeping, see Chapter 5, “Print Server Supervision.” For solutions to problems that may arise, see Chapter 6, “Troubleshooting.”

IMPORTANT The AppleShare Print Server program can accommodate any model of Apple LaserWriter that is compatible with LaserWriter 7 drivers, ImageWriter printers, and any other printers compatible with the print drivers for these two classes of printers.

Capturing printers

Printers assigned to duty as print spoolers are said to be *captured*. A single server can capture up to five printers.

To capture a printer:

1 Start the AppleShare Print Server program.

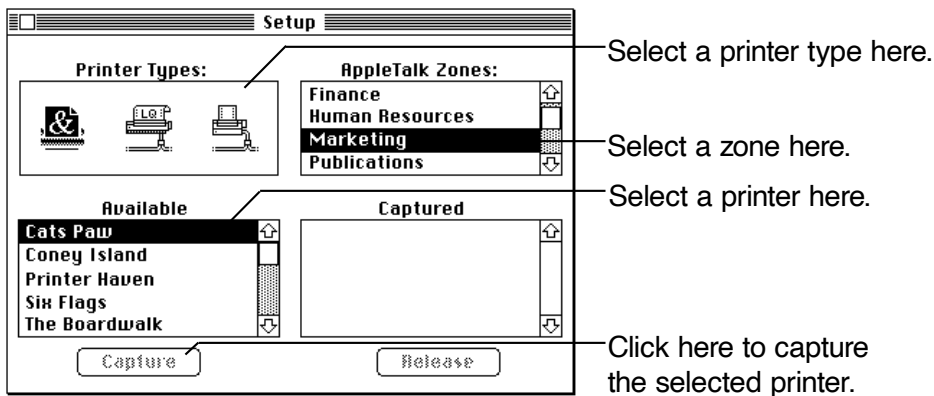
Choose the AppleShare Print Server alias from the Apple menu.

If you do not have any printer drivers installed in your System Folder, you see a message that the program cannot complete its startup procedure.

Install a printer driver for each type of printer you want to use with the print server. (Printer drivers are supplied with system software, and on the installation disks that came with the printers you have on your network.)

2 If necessary, choose Setup from the File menu.

The Setup window appears:



3 Select the icon for the type of printer you want to capture from the **Printer Types** box.

You can capture printers of various types, but only one type at a time.

4 If necessary, select the zone the printer is in.

If your local network is part of a larger network that is subdivided into zones, you see a zone list in the upper-right portion of the window. Your home zone is automatically selected, and its printers are listed in the Available list in the lower-left portion of the window. If you want to select a printer from another zone, select that zone, scrolling to find it if necessary. When you select another zone, the printers in that zone appear in the Available list.

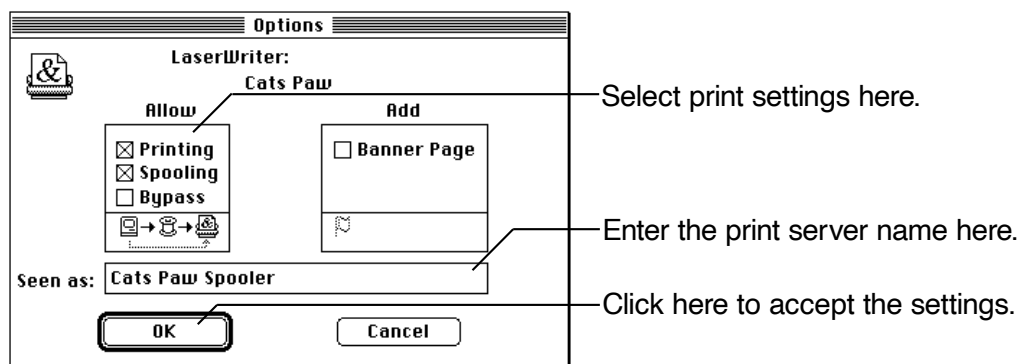
5 Select the printer you wish to capture from the **Available** list.

You can capture only one printer at a time.

6 Click **Capture**.

Or double-click the name in the Available list.

The Options dialog box appears:



These are the options available for print service:

- The Printing option indicates that documents will be accepted for printing. (Turned on by default.)
- The Spooling option indicates that users' documents will be accepted for spooling. (Turned on by default.)
- The Bypass option allows users to bypass spooling and send documents directly to the printer.

About the “Seen as” box: The “Seen as” name is what users see in the Chooser. By default, it’s the name of the printer with the word *Spooler* added to it. The name, not including “Spooler,” must be 32 characters or fewer. The program automatically shortens longer names. If you want to change the name of the spooler, enter the new name.

For information on changing these options, see Chapter 5, “Print Server Supervision.”

7 Click OK.

The program begins capturing the printer. You see a series of status messages; clicking Stop Capture at any time halts the process.

The print server adds the name of the captured printer to the Printer menu. The print server also creates a print queue folder for each captured printer and, by default, stores it in the Preferences folder (inside the System Folder on the server computer’s startup disk). This folder contains the print log and print queue files. The folder’s name consists of the letter *Q* followed by the printer’s name followed by the name of its AppleTalk zone. If there is no zone, the name ends in an asterisk instead. For instance, “Q_Gutenberg_” would indicate a printer named Gutenberg on a network that does not have zones. The queue folder also holds temporary files that the print server creates for spooled jobs.

You can change the location of the print queue folder, if you want. For instructions, see Chapter 5, “Print Server Supervision.” You’ll learn how to work with the print log and queue files in Chapter 5.

8 Repeat steps 2 through 7 for each additional printer you want to capture.

Repeat the steps until you have captured all the printers you need, or you have reached the maximum of five printers.

Getting users ready

Macintosh users who plan on using the print server should all have the same version of printer drivers installed on their workstations. (This is true even if they use networked printers directly.) To check the version number of the printer driver on the server computer, select the driver icon in the Extensions folder (inside the System Folder), and choose Get Info from the File menu.

The AppleShare Print Server software does not include printer drivers. Users with system software version 6.0.8 or later do not need to upgrade their printer drivers. To upgrade the printer drivers on system software version 6.0.7 workstations on the network, use the installer disks that came with your system software upgrade kit. (IBM PC-compatible users can continue to print using their usual network printing software.)

Once users have updated printer drivers installed in their workstations, the print server is ready to use. In many cases you'll find that you have few responsibilities beyond physically maintaining the printers. You can, however, control the process more closely. For more information on print server supervision and record keeping, see Chapter 5, "Print Server Supervision."

5

Print Server Supervision

The AppleShare Print Server program provides you with a number of methods to control and monitor print server performance. This chapter explains the options and shows you how to put them into operation.

Monitoring print queue windows

Every captured printer has an associated print queue that provides detailed information on a printer’s activity. (When you capture a printer, its queue and log windows are both automatically opened.) At the top of the window is the Status line. It tells you what is happening at the moment. For example, the status line reports when the print server is sending a document to the printer, or indicates when the printer is jammed or out of paper.

Below the status line is a list of spooled documents. The top document is always the one that is currently printing. Documents below the top are listed in the order received, unless, as discussed later, you change the order.

Status	Document	User	Date/Time	Pages
	Status Report	Fred Bonzini	9/1/95 8:22:31 AM	13
	2-Getting Started	Charlotta Gue	9/1/95 8:24:38 AM	9
	Resignation letter	Ralph Flywheel	9/1/95 8:27:17 AM	6
	Print Log	Administrator	9/1/95 8:28:56 AM	12

Each entry in the list shows the status of the document—whether it is currently being spooled from the workstation, is in the server waiting its turn, or, in the case of the top document, is currently printing. In addition, the document name, user name, date and time of spooling, and number of pages are included.

Note: The print queue for ImageWriter printers shows only the date and time for each document received. No document or user name or page count is included.

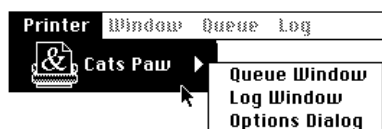
As new documents are spooled, they are listed at the end of the queue. When the queue is full, the print server blocks spooling until room becomes available. A print queue can hold up to 1000 documents, given sufficient disk space.

The queue contains listings for active documents only. Once a document has been printed, its listing is removed from the print queue and added to the print log. The print log is discussed in “Using the Print Log” later in this chapter.

Viewing queue windows

When you capture a printer, its queue and log windows are both automatically opened. To view a closed queue window:

- 1 **Choose the printer’s name from the Printer menu.**



- 2 **Holding down the mouse button, drag across the printer’s name into the submenu that appears next to the printer’s name and choose Queue Window.**

Managing queue and log windows

You may often want to look at the print queues of several printers simultaneously, and you may sometimes need to work with their logs as well (see “Using the Print Log” later in this chapter for more information about logs). You can keep your windows in good order using the standard techniques of dragging, resizing, and closing. Or you can control the display with the commands in the Window menu:

- Choose Tile Queues and Logs command from the Window menu to automatically size and position open queue and log windows so that you can see all of them without overlap. Each window may shrink so that you see only a small part of it.
- Choose Stack Queues and Logs command from the Window menu to stack the windows with all of the front window visible and a corner of each of the windows behind visible as well. Clicking any part of a visible window brings that window to the front.

Note: Window displays have no effect on spooling or printing. A queue window need not be visible for a spooler to print.

Changing the print queue

When users send documents to the print queue, they are normally listed and processed in the order received. Sometimes, though, you may wish to delete or print a document immediately. Also, you may want to change the location of the print queue folder. The following sections tell you how.

Moving a document to the top of the print queue

To move documents to the top of the print queue:

- 1 If necessary, open the print queue window.**

If the window is hidden, choose the printer's name in the Printer menu, and then choose Queue Window from the submenu.

- 2 Select the document you want to print next.**

Click the document's name in the window. If necessary, scroll to find the document.

- 3 Choose Print Next from the Queue menu.**

The selected document is moved to the second position in the queue, after the document that is currently being printed.

Deleting documents from the print queue

Sometimes you may wish to cancel printing of one or more documents. Follow these steps to delete documents from the print queue:

- 1 If necessary, open the print queue window.**

- 2 Select the document or documents you want to delete.**

Click the first document name in the list; Shift-click to select additional documents. If necessary, scroll to find them.

3 Choose Delete from the Queue menu.

You see this dialog box, asking you to confirm the deletion:



4 Click OK.

Deleted documents are removed from the print queue, and an entry is included in the print log. (See “Using the Print Log” later in this chapter for more information.)

If you delete a document that’s being printed, printing may continue for a short time. This is because part of the information for the document may have already been sent to the printer.

Changing the location of the print queue folders

As the AppleShare Print Server program captures printers, it creates a print queue folder for each captured printer in the Preferences folder in the startup disk’s System Folder. These print queue folders store all the documents spooled to their respective printers, where they wait for printing. Depending on the amount of printing you anticipate, you may want to move the print queue folders to another disk to provide more disk space on your startup disk.

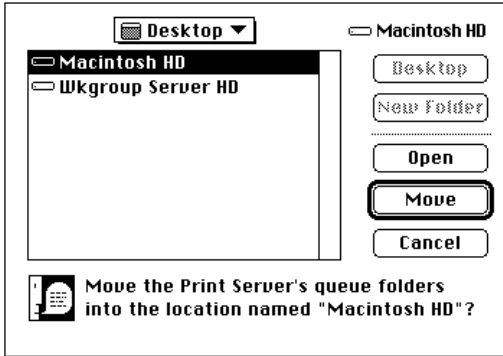
To change the location of the print queue folders:

1 If necessary, release any captured printers.

See the section “Releasing Printers” later in this chapter for more information.

2 From the File menu, choose Set Queue Location.

The following dialog box appears:



3 Choose a new location for the print queue folders.

Use standard Macintosh techniques to choose a new location. Double-click folders to open them, or open the pop-up menu to move through the hierarchy of folders. Click New Folder to create a new folder.

4 Click Move.

5 Recapture the printers you want to make available on the print server.

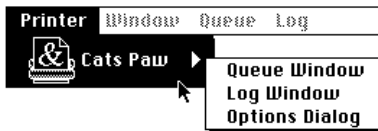
Use the same procedures you originally used to set up print service (described in the section “Capturing Printers” in Chapter 4). As you capture printers, a new print queue folder is created for each printer in the new location you just chose.

Allowing users to bypass spooling

In some situations, you may want to let users bypass the spooler and print directly to a captured printer. You may want users to bypass the spooler, for example, to support manual paper feed. Or you may just want to give users the option of either print service or direct printing control.

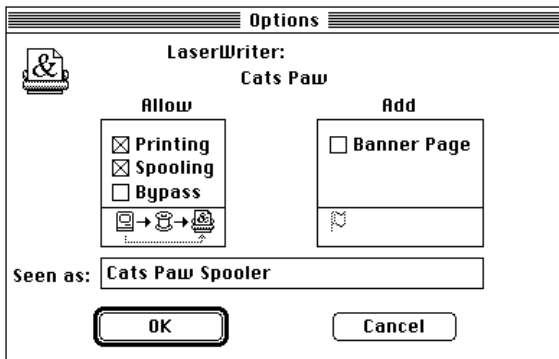
To allow users to bypass spooling:

- 1 **Choose the printer's name from the Printer menu.**



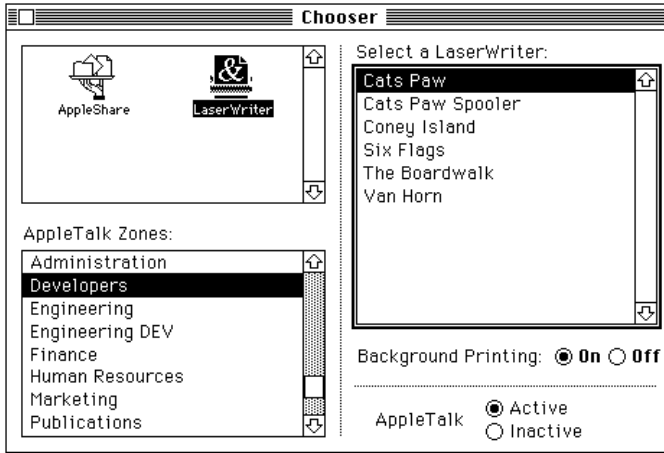
- 2 **Holding down the mouse button, drag across to the submenu and choose Options Dialog.**

The Options dialog box appears:



3 Click the Bypass checkbox so an X appears, and click OK.

The printer is now listed in the Chooser as both a spooler and a direct printer.



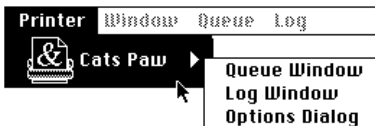
Once you've allowed users to bypass the print spooler and to print directly to a captured printer, the printer will be listed in two forms in the Chooser. Users can choose either to print directly (by choosing the printer listed by name only) or to send their documents to the spooler (by choosing the printer with the same name and followed by the word "Spooler").

Temporarily stopping printing or spooling

You may want to prevent users from printing or spooling to a captured printer temporarily—for example, while you're performing routine maintenance. You can do so with the Options dialog box.

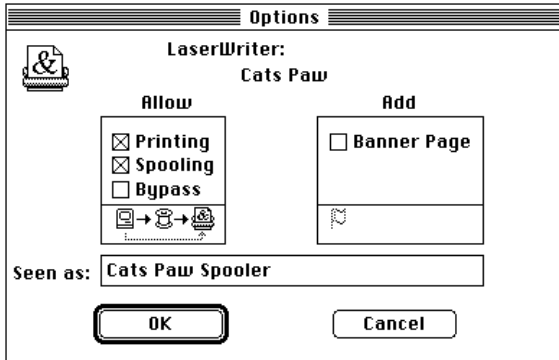
To temporarily stop printing or spooling:

1 Choose the printer's name from the Printer menu.



2 Holding down the mouse button, drag across to the submenu and choose Options Dialog.

The Options dialog box appears:



3 Click the Printing checkbox, the Spooling checkbox, or both; then click OK.

The X's are removed from the boxes, indicating that the options are deselected.

When you want to reestablish printing or spooling, open the Options dialog box and reselect printing or spooling and click OK.

Releasing printers

If you decide that you don't need to spool to a particular printer (or you want to make room to capture a new one), you can release it with essentially the same procedure as for capturing.

To release a printer:

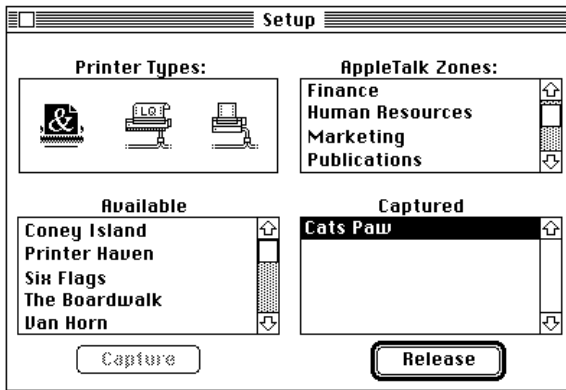
1 Choose Setup from the print server's File menu.

The Setup window appears, showing the captured printers in the Captured list.

2 If necessary, click the appropriate icon in the Printer Types box.

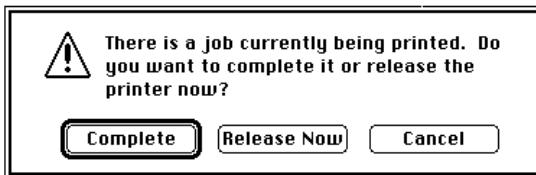
When the dialog box appears, the LaserWriter icon is automatically selected, and captured LaserWriter printers are displayed in the Captured list. If you want to release an AppleTalk ImageWriter II or ImageWriter LQ, you must click its icon.

3 Select the printer you want to release from the Captured list.



4 Click Release.

If you click Release while a document is spooling or printing, an alert box appears:



5 Click Complete, Release Now, or Cancel.

- If you click Complete, the printer finishes printing the current job.
- If you click Release Now, the server stops spooling and printing.

The server does not accept additional documents for this printer. Listings for documents in the process of being spooled are deleted from the print queue and placed in the print log. All documents that have been spooled but not yet printed remain in the queue and will be printed on recapture. A document that is actually being printed remains at the top of the print queue and will be printed in its entirety on recapture.

- If you click Cancel, the printer remains captured.

Adjusting the ImageWriter Interpage Time-out option

When printing to an ImageWriter II or ImageWriter LQ printer, many programs treat each page as a separate document. This can cause print server problems because each page could be listed separately in the print queue and, much more important, documents might be shuffled if several documents are spooled simultaneously.

The ImageWriter Interpage Time-out option is a way around these problems. It causes the server to pause after receiving a page of an ImageWriter document. If a new page arrives within a set time (five seconds is the default) from the same user's machine, the server treats it as part of the same document as the previous page. If the page arrives later, the server treats it as page one of a new document.

Because printing can take variable amounts of time, the Interpage Time-out option is adjustable. You need to adjust it if you have either of these problems:

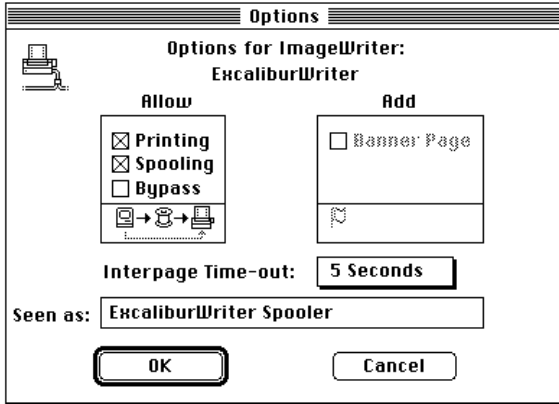
- A document is split into a series of one-page documents; in this case, you need to set the Interpage Time-out higher than the default to give the program more time to print each page.
- Several documents are combined into one; in this case, you need to set the Interpage Time-out lower than the default.

To adjust the Interpage Time-out option:

- 1 Choose the printer's name from the Printer menu.**

2 Holding down the mouse button, drag across to the submenu and choose Options Dialog.

The Options dialog box appears:

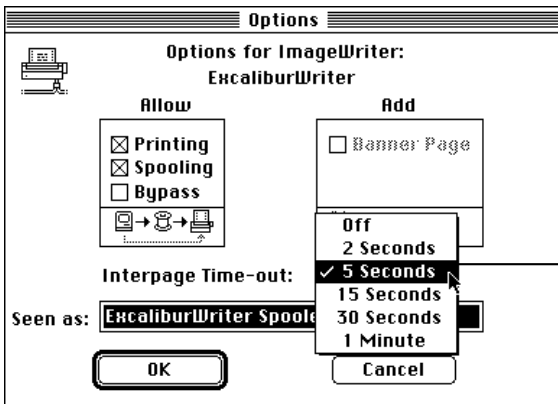


3 Pull down the Interpage Time-out pop-up menu.

To see the pop-up menu choices, click and hold the pointer in the Interpage Time-out box.

4 Choose an appropriate value.

Raise the value to increase the interval; lower the value to decrease it.



Choose an appropriate time-out interval from the pop-up menu.

The new value appears in the Interpage Time-out box.

5 Click OK.

The Interpage Time-out option is set.

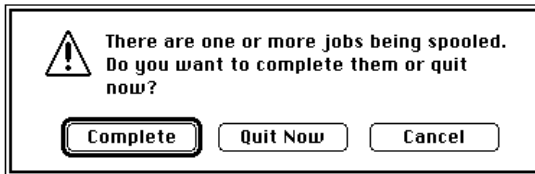
Quitting and restarting print service

If you need to quit print service, queued documents remain in the print queue folder for the printer to which the documents were spooled. They are printed in order when print service resumes. All captured printers are automatically released by the AppleShare Print Server program when you quit. They are automatically recaptured when you restart the AppleShare Print Server program, so you should explicitly release those you don't want to recapture before quitting.

Quitting print service

You suspend print service by quitting the AppleShare Print Server program. Quitting the program has much the same effect as releasing a printer, except that all print spoolers are affected simultaneously.

If you quit while documents are spooling or printing, one or both of these alert boxes appear:



- If you click Complete while spooling, the print server finishes spooling and registers the documents in their appropriate print queues, but it does not accept additional documents.

- If you click Complete while printing, the print server finishes printing the documents currently being printed (one per captured printer).
- If you click Quit Now while spooling, the server deletes the listings for the documents that are actively spooling or printing from the print queue and enters the listings in the print log.
- If you click Quit Now while printing, the server stops sending documents and quits. The document that is actually printing remains in the print queue and will be the first document printed when services resume.
- If you click Cancel in either case, print service continues without interruption.

Note: If the server shuts down due to a power failure, all documents that have completed spooling are still listed in the print queue. Listings for documents that have not yet been spooled disappear from the queue. The documents must be spooled again.

Restarting print service

You resume print service by choosing the AppleShare Print Server program alias from the Apple menu.

When you start the program, the print server attempts to recapture all the printers it had captured before. It reopens any print queue or print log windows that were open before quitting, and restores the options for each printer.

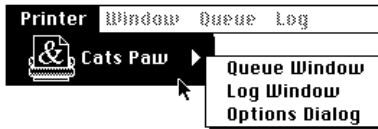
Note: If, in general, you shut down the server computer when you shut down print service, you may want to automate restarting. You can automate restarting by dragging the AppleShare Print Server program icon, or an alias of the icon, into the Startup Items folder. This way the program starts automatically when you start up the server computer. For more information about the Startup Items folder, see Macintosh Guide.

Printing banner pages

You can generate banner pages for documents produced on any LaserWriter print spooler. A banner page shows the user's name, the program, the document name, the date and time of spooling, the name of the printer, and the number of pages in a document. A banner page is similar to the cover-page option.

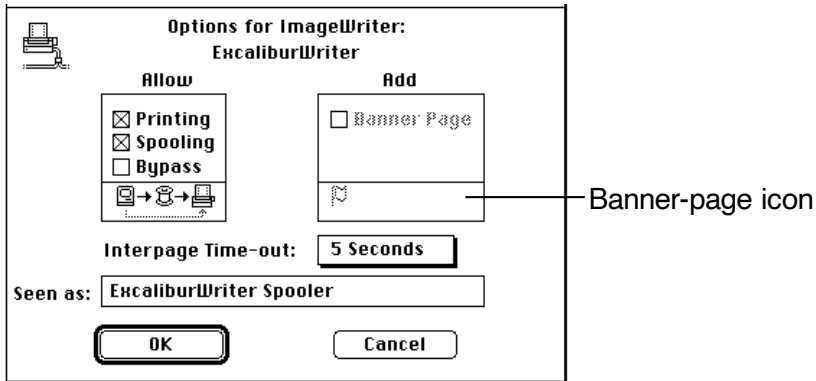
To print banner pages:

- 1 **Choose the printer's name from the Printer menu.**



- 2 **Holding down the mouse button, drag across to the submenu and choose Options Dialog.**

The Options dialog box appears:



- 3 **Click the Banner Page checkbox so an X appears, then click OK.**

The banner-page icon is no longer dimmed on the status line of the print queue window. A banner page is generated at the end of all subsequent documents printed on that particular printer.

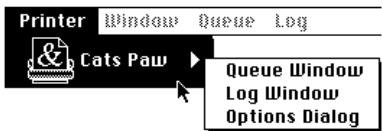
Using the print log

The print log contains historical information about the print server. In contrast with the print queue, which contains information about documents that are waiting to print or are currently being printed, the print log records documents that have been printed, were deleted from the queue, or could not be printed for some reason. Document information is added to the log as it is removed from the queue.

Viewing the print log

To view the print log:

- 1 Choose the printer's name from the Printer menu.



- 2 Holding down the mouse button, drag across to the submenu and choose Log Window.

The print log for that printer appears:

Cats Paw Spooler Log					
Status	Document	User	Date/Time		Pages
Completed	0-About This Book	Charlotta Gue	9/1/95	1:32:25 PM	7
			9/1/95	1:53:44 PM	7
Disk full	2-Getting Started	Charlotta Gue	9/1/95	1:57:29 PM	2
			9/1/95	1:59:31 PM	0
Completed	Status Report	Fred Bonzini	9/1/95	1:35:47 PM	13
			9/1/95	2:05:12 PM	13
Completed	2-Getting Started	Charlotta Gue	9/1/95	1:46:42 PM	9
			9/1/95	2:15:51 PM	9
Deleted	Resignation letter	Ralph Flywheel	9/1/95	2:25:49 PM	1
			9/1/95	2:26:25 PM	0

Saving the print log

If you want to keep the log for future reference, you can save it as a text file. You can then open and edit it, print it, or extract information from it for use in reports.

If the text file is smaller than 32K, you can use SimpleText to open it. It can also be converted into any other word-processing or text-editing format that can convert text files.

To save the print log:

- 1 Open the print log you want to save.**

See the previous section, “Viewing the Print Log,” for details.

- 2 Choose Save from the Log menu.**

A list appears, permitting you to save the log in any folder or disk you choose.

- 3 Enter a name for the log.**

You can use the default name, which is Log File, but a name that includes the spooler name and date will help you keep track of multiple logs.

- 4 Click Save.**

Removing the print log

If you have saved the current print log, or think that the file has grown too large or too old to be usable, you can clear it and begin anew.

To remove the print log:

- 1 Open the print log you wish to clear.**

See “Viewing the Print Log” earlier in this chapter for details.

- 2 Choose Clear from the Log menu.**

You see a dialog box asking you to confirm your decision.

- 3 Click OK.**

The log is cleared.

6 Troubleshooting

This chapter helps you address problems you may have while providing AppleShare file and print services.

Note: If you have access to the World Wide Web, you may find additional AppleShare troubleshooting information in the support section of Apple's Web pages. You can find Apple's home page at the following URL:
<http://www.apple.com>.

Problems with file service

You can't open the AppleShare Admin program.

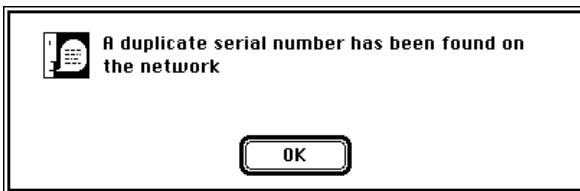
The AppleShare Admin program reads information from the Users & Groups Data File when it starts. If you can't open the Admin program, your Users & Groups Data File may be damaged. Replace the Users & Groups Data File with a recent backup or delete it from the Preferences folder in the System Folder. If you delete it, you must reassign access privileges.

You try to run the AppleShare File Server and get a message that another copy of the program is already running.

From the Finder, check the Applications menu in the far-right corner of the menu bar. If the File Server is listed there, choose it. If it is not listed, close any open programs and restart the server computer. Then try to start the program again.

You get a message that two file servers with the same serial number have been detected on the network.

When you run the AppleShare Admin program for the first time, you enter a serial number identifying your copy of the AppleShare software. The first time you start the File Server program, the software checks the network zone in which your server resides for other servers that may be using the same serial number as the one registered on your server. If the same serial number is detected, an unauthorized copy of AppleShare software is running in violation of the Apple software licensing agreement. You will see the following alert box:



Determine which file server is running in violation of the agreement and cease using that copy of the software.

For information on protecting your serial number, see Appendix B, "Serial Number Verification and Conflict Resolution."

You've forgotten your Admin Key.

The Admin Key is stored in the Users & Groups Data File. If you forget the Admin Key, quit the AppleShare Admin and AppleShare File Server programs. Then drag the Users & Groups Data File out of the Preferences folder to the System Folder. Then restart the Admin program. In a moment the program will ask you to provide a new file server name and Admin Key. Enter the *same* file server name, and a *new* Admin Key.

Following this procedure assigns a new Admin Key and creates a new Users & Groups Data File in the Preferences folder. All of the original user and group accounts, passwords, and access privileges for shared volumes must be reassigned. You can then delete the old Data File.

The system seems to “freeze.”

If the keyboard and mouse do not work, check that the keyboard cable is connected properly at both ends. If the system is still frozen, press the Reset switch. If the problem persists contact your Apple-authorized dealer or representative.

You can't drag a user's name from the User List window to the Members box in the Group window.

- When creating groups, you must click the Save button in the New Group window after you've given the group a name and *before* you assign users to the group. Make certain the group name has been saved. (The name of the group should appear in the Group List window.)
- When assigning membership to a group, you must select each user's name by clicking it in the User List window; to drag it to the Members box in the group window, you must drag the user's *icon*, not the name.

The access privileges you assigned to all folders on a volume are lost.

If you receive an alert box with a message that indicates all access privileges on a volume have been lost, your Users & Groups Data File does not match your Parallel Directory Structure (PDS) file. (The PDS file is an invisible file that keeps track of unique identification numbers assigned to each user and group created on the server as well as each folder on the server.) Reassign access privileges as appropriate.

The access privileges you assigned to a single folder are lost.

If you've backed up a folder and then retrieved the backup copy, the access privileges may disappear for the backup copy. Some backup programs save access privileges and others don't; consult your backup program's documentation for more information.

If you want to restore access privileges for the backup copy, you'll need to reassign the privileges as appropriate.

You can't open the Users & Groups control panel.

The Users & Groups control panel cannot be used once you have installed the AppleShare software. You use the AppleShare Admin program to register users and groups.

Volumes are missing after starting the AppleShare File Server program.

If the volume name does not appear in the Volume Info window, you need to start the AppleShare Admin program to prepare each connected volume.

Creation and modification dates or times are incorrect.

If the clock on the file server is incorrect, quit the AppleShare File Server program, choose the Date & Time control panel from the Apple menu, reset the time, and then restart the AppleShare File Server program. If the server computer's internal battery needs replacing, change the battery, and then set the clock. If a user's clock is incorrect, instruct the user to log off the file server, reset the clock, and then log on again.

Users have access to your personal files.

In general, keep personal files in a separate folder. In the Access Information window, check the folder's access privileges and make sure you are the owner of the folder. Remove any access privileges you assigned for the folder in the User/Group and Everyone checkboxes. Finally, make certain that no one but you has the All Privileges Enabled setting checked in the User Information window, unless you specifically want superusers.

You've inserted a CD-ROM into the drive, but the AppleShare Admin program won't prepare the volume.

Open the startup disk's System Folder, open the Preferences folder, then open the File Server folder and delete the file that begins with the name of the CD-ROM you want prepared. Eject and reinsert the CD-ROM, then restart the Admin program to prepare the volume.

You've inserted a CD-ROM into the drive, but users can't access it.

Before users can access a CD-ROM, you must share the volume and set access privileges for it in the AppleShare Admin program's Access Information window. Once you do so, the CD-ROM is available to any user to whom you've given access privileges.

Mounting CD-ROM volumes takes too long.

Because of their large storage capacities, files on CD-ROM discs are often organized into hundreds of folders, most of which are nested inside other folders. If you assign explicit access privileges for folders on a CD-ROM or for the CD-ROM itself (for instance, by using the Change All Enclosed Folders option in the Access Information window), mounting the CD-ROM can become very slow.

You can reduce the time: From the AppleShare Admin program, choose Access Information from the Privileges menu. Select the CD-ROM from the Volumes list and choose the Compact Volume Access Privileges command from the Privileges menu. This changes the explicit access privileges on that volume to inherited privileges in cases in which the enclosing folder's privileges are the same as those of the items it contains.

Too many people have access to the file server.

- You may have allowed guest access. From the AppleShare Admin program, choose User List from the Users menu. Double-click <Any User>. In the <Any User> information window, make sure the Login Enabled option is not selected. If it is selected, click the checkbox to remove the X—doing so denies guest access.
- If you must allow guest access, limit access to folders only, not entire hard disks, and make sure that access privileges for Everyone are enabled for only those folders to which you must allow guest access.

You can't open other programs on the server.

You have not allocated enough of the server's random-access memory (RAM) for other programs besides the File Server program. In the AppleShare Admin program, choose File Server Cache Preferences from the Server menu and adjust the amount of RAM not to be used by the file server in the "Memory to be reserved for other applications" box.

In the AppleShare File Server program, you can choose Reset Cache from the Server menu to flush the cache temporarily, then start the program.

After you've quit the program, RAM that had been reserved for the program is assigned to the File Server program and other programs according to the setting in the File Server Cache Preferences window.

Local work on the server computer is too slow.

Quit any programs that you are not currently using. If local work is still too slow, from the AppleShare File Server program choose Show Connected Users from the Server menu. In the Connected Users window, set the Maximum scale to a lower percentage. Doing so reserves more processing activity for local work.

You may also want to adjust the amount of RAM to be used by other programs besides the File Server program in the File Serve Cache Preferences window (from the AppleShare Admin program, choose File Server Cache Preferences from the Server menu). Note that allocating additional RAM for other programs may adversely affect file server performance.

Users complain that the file server is too slow.

If the server is too slow, try one or more of the following solutions:

- Quit any open programs that you are not currently using.
- Remove unnecessary extensions from the Extensions folder (in the System Folder).
- From the AppleShare File Server program, choose Show Connected Users from the Server menu. In the Connected Users window, set the Maximum scale to a higher percentage. Doing so provides more processing for users working on the file server.
- Make sure the latest version of the AppleShare workstation software is installed on user computers.

- If the file server computer is running other network services (such as routing, electronic mail, or calendar services) consider moving these services to another server.
- You may have assigned too much RAM to other programs running on the server; check the setting in the File Server Cache Preferences window.
- Install additional RAM in your server. Memory for your server is provided in packages called *RAM SIMMs*.

A user cannot find a file or folder.

A user must have See Folders access privileges for the volume and for each folder in the path to the file. If a user can't find a file or folder, that particular user may not have the access privileges necessary to see it.

- From the AppleShare Admin program, choose Access Information from the Privileges menu and select the volume or folder from the Volumes list. Examine the access privileges and change them if necessary.
- At the user's computer (logged on as administrator), locate the file or folder using the Find command (in the File menu), and then use the Sharing command (for System 7) or the Get Privileges command (for System 6) from the File menu to examine the access privileges and change them if necessary.

Users receive a message that another server with the same serial number has been detected on the network.

When you run the AppleShare Admin program for the first time, you enter a serial number identifying your copy of the AppleShare software. The first time you start the File Server program, the software checks the network zone in which your server resides for other servers that may be using the same serial number as the one registered on your server. If the same serial number is detected, an unauthorized copy of AppleShare software is running in violation of the Apple software licensing agreement. Determine which file server is running in violation of the agreement and cease using that copy of the software.

For information on protecting your serial number, see Appendix B, "Serial Number Verification and Conflict Resolution."

A user has forgotten his or her password.

Assign a new password. From the AppleShare Admin program, choose User List from the Users menu. Double-click the user’s name in the User List window to open his or her User Information window. Select the black dots that appear in the Password box. Enter a new password and click Save.

A user’s password won’t work.

- If a user cannot log on to the file server with his or her usual password, check to see if the password has expired. If it has, assign a new one. You may also want to consider changing (or deselecting) the Number of Failed Login Attempts setting in the Admin program’s File Server Preferences window; it may be set too low.
- What happens when a user’s password does not work varies depending on the type of workstation being used and the version of AppleShare workstation software installed. Use the following information to help identify the problem:

Workstation	Message or symptom
Macintosh with version 3.6.1 later of the AppleShare workstation software	“Your password has expired. Please set a password.” <i>or</i> “Your password must be changed. Please set a new password.”
Macintosh with AppleShare 2.0 workstation software	“The attempted connection to the server’s volume has failed. Please contact the server’s administrator.”
IBM PC (or compatible)	“Error –5019 has occurred.”

- Generally, if the types of workstations on your network vary, you can avoid password problems by *not* using two features: Require New Password on Next Login (in the User Information window) and Number of Days Until Password Expires (in the File Server Preferences window).

Users can't see the AppleShare icon in the Chooser.

The AppleShare Chooser extension is not in the Extensions folder, in the System Folder, on the user's computer. At the user's computer, reinstall the AppleShare workstation software.

Users can't see the name of the file server in the server list in the Chooser.

- Make sure you have started the AppleShare File Server program and that you have shared a volume or folder on the server.
- Check the name you assigned the file server in the File Server Preferences window. Make sure users have the correct server name.
- Check your network connections.

Users can't log on to the server.

- Make sure the user has entered the correct user name and password (the password must be entered exactly as you have set it; uppercase and lowercase letters must match).
- Make sure Login Enabled is selected in the User Information window for that user.
- Make sure you have shared a volume or folder on the server and that you have assigned appropriate access privileges.
- Make sure the maximum number of concurrent users you set in the File Server Preferences window has not been exceeded.

Users are disconnected unexpectedly.

- Make sure that the server hasn't crashed.
- Make sure that the server and workstations are properly connected to the network.

Users receive a -1072 error message.

Users may receive one of the following errors messages,

Error -1072, There was an error writing the file

or

The shared disk <diskname> could not be opened because an error of type -1072 occurred

after being disconnected from the server. Tell users they can click the OK button and disregard the message.

Users receive error messages when logging on.

Versions of the AppleShare workstation software prior to 3.0 do not support AppleShare messaging features. Make sure the latest version of the AppleShare workstation software is installed on user computers.

Problems with print service

You try to run the AppleShare Print Server program and get a message that another copy of the program is already running.

From the Finder, check the Application menu in the far-right corner of the menu bar. If the AppleShare Print Server program is listed there, select it. If it is not listed, close any open programs and restart the server computer. Then try to start the AppleShare Print Server program again.

The system seems to “freeze.”

If the keyboard and mouse do not work, check that the keyboard cable is connected properly at both ends. If the system is still frozen, press the Reset switch. If the problem persists contact your Apple-authorized dealer or representative.

The AppleShare Print Server program cannot capture a printer.

If the print server is in the process of capturing a printer and displays the message “Having difficulties connecting to the printer,” someone else is probably already using the printer. You can click Stop Capture to stop the process or wait for the print job to be completed.

The print server can't find a printer.

Normally, a print server displays the message "Looking for <printer name>" when it's capturing a printer or preparing to send a document to be printed. If that message remains on the screen for an extended time, it means the print server can't find the printer.

If the print server can't find the printer, switch the printer off and then on again. Check the name of the printer on the test page. If someone has changed the printer's name, rename it, or try to capture the printer again under its new name. (Instructions for renaming are described in the manual that came with your printer.) If the problem persists, check the network connection.

A document won't spool.

If a workstation user receives a message that a document can't be printed, or if a document doesn't spool, make sure the print server is correctly selected as the computer's printer. Printers are listed in the Chooser for Macintosh and in the printer-selecting software for IBM PC-compatible users.

- If the print server isn't listed in the Chooser or IBM PC-compatible printer-selecting software, check the print server to make sure that the printer is captured and that the Spooling option is selected in the Options dialog box.
- If the print server still isn't listed, check the network connections. Refer to the documentation for your networking hardware and software to answer any questions about setting up and troubleshooting the network.
- If workstation users send documents to a print server and find that the documents didn't print and weren't listed in the print queue and print log windows, someone on your network may be using an outdated printer driver. Make sure that all Macintosh workstations on your network are using the same printer driver. Then reinitialize the printer by turning it off and then back on.

The print server can't print a specific document.

- If the print log shows that a printing error occurred, or if an error page is printed, it may mean that the program printing the document isn't fully compatible with the AppleShare Print Server program. Have the user print directly to another printer that hasn't been captured.
- If no other printer is available, select the Bypass option in the Options dialog box. Have the user print directly to the printer by selecting its name in the workstation's Chooser or IBM PC-compatible printer-selecting software. If the user still can't print the document, consult the manual that came with the printer or with the program you are using.

The top document doesn't print.

- If the print server doesn't send the top document in the print queue to the printer, make sure the Printing option is selected. Check the status line of the print queue window for a message reporting that the captured printer is out of paper or that paper is jammed. If you see such a message, correct the problem.
- If the status line of the print queue window reports that the print server is looking for the printer, see the information under "The Print Server Can't Find a Printer" earlier in this section. If the Bypass option is selected, see if the printer is busy with documents from workstations that are bypassing the print server and printing directly.

Printed document not found.

If you or a workstation user can't find a document that was spooled to the print queue, check both the print queue and the print log windows, scrolling through them if necessary. If the document doesn't appear in the print queue, it may have already been printed and should appear in the print log, unless it didn't complete spooling or unless more than 1000 documents were added to the print log after it.

- If the print log shows that the document completed printing, ask other workstation users whether they picked up the printed document by mistake. The print log shows whose documents were printed immediately before and after the missing document.

- If the print log shows that the document was deleted from the print queue, have the user spool it again.
- If the print log shows that a printing problem occurred, see the information under “The Print Server Can’t Print a Specific Document” earlier in this section.

Users complain that the print server is too slow.

Quit any open programs that you are not currently using. If print server performance is still too slow and you are concurrently providing file service, in the AppleShare File Server program choose Show Connected Users from the Server menu. In the Connected Users window, set the Maximum scale to a lower percentage. Doing so provides less processing for the file server and more processing for the print server.

You may also want to adjust the amount of RAM to be used by other programs besides the File Server program in the File Server Cache Preferences window (from the AppleShare Admin program choose File Server Cache Preferences from the Server menu). Note that allocating additional RAM for other programs may adversely affect file server performance.

The print server beeps.

The print server beeps if a printer is jammed or out of paper (unless you’ve set the print server’s speaker volume to 0 in the Sound control panel). Check the status line of the print queue window(s) to find the specific problem.

You cannot open a print server log.

If a print server log is 32 kilobytes (K) or greater in size, SimpleText cannot open the report. Use a word-processing program or a text editor capable of reading plain-text (ASCII) documents to open the report.

Problems occur with ImageWriter documents.

Because some programs handle printing on an ImageWriter by treating each page of a document as a separate document, you might have these problems when spooling documents to captured ImageWriter printers:

- When you delete an ImageWriter document from the print queue while the document is still spooling, the print server program may delete only those pages that have already been spooled, while it continues to spool and print the remaining pages as a separate document.

If this happens, you'll need to wait until the entire document is spooled before deleting it from the print queue, or delete each page individually as the pages are spooled.

- If the print server's hard disk is full when an ImageWriter document is spooling, the print server program will delete each page of the document as it receives it from the workstation (and the document will appear and disappear in the spooler's print queue window).

If disk space becomes available while the document is spooling (if the document at the top of the print queue finishes printing, for example), those pages that are received by the spooler while the hard disk is full will be deleted, but those that are received after disk space is available will be spooled and printed. If this happens, have the workstation user spool the document (or the unprinted portion) again.

- If you quit the AppleShare Print Server program while an ImageWriter document is spooling, a dialog box appears asking you whether you want to complete the print job. If you click Complete, the print server may finish spooling only the page that is currently being spooled, and not spool any remaining pages.

If the workstation user wants to print the rest of the document when you restart the print server, have the user spool the unprinted portion again after you restart the print server.

Appendix A AppleShare 4.2 Specifications

AppleShare File Server

Maximum number of connected users	250
Maximum number of unique open files	approximately 300
Maximum number of all open files	3000
Maximum number of volumes	50
Maximum number of shared items	100
Maximum number of users in a user/group file	8192 (2000 recommended)
Maximum number of groups in a user/group file	8192 (2000 recommended)
Maximum number of group memberships per user	42
Maximum number of simultaneous launches	up to 150 (depends on program and connected users)

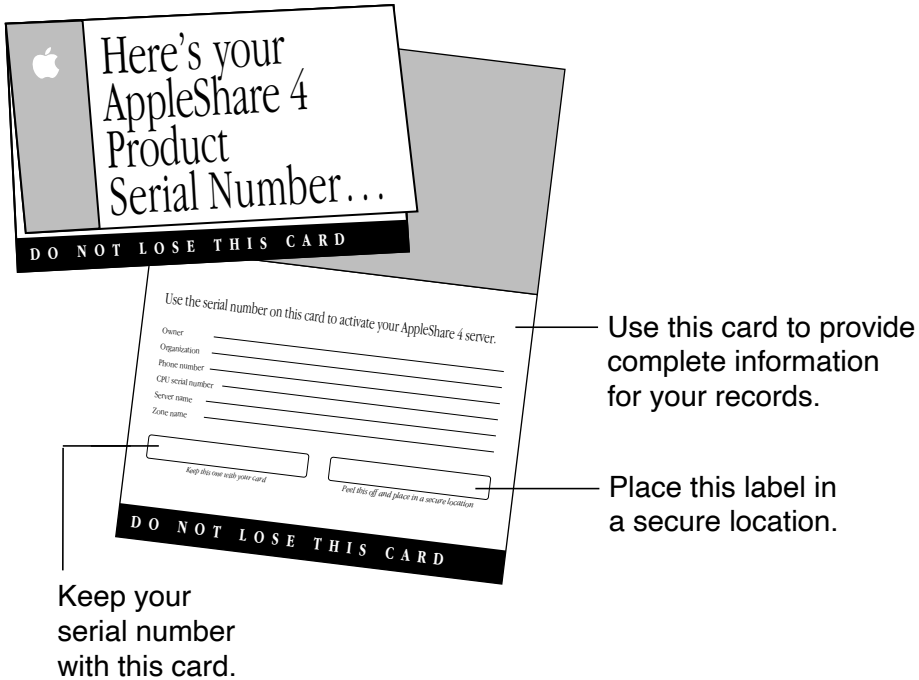
AppleShare Print Server

Types of printers supported	AppleTalk-compatible printers
Maximum number of captured printers	5
Maximum number of spool sessions per printer	8
Maximum number of queued files	1000
Maximum number of log entries	1000

Appendix B Serial Number Verification and Conflict Resolution

Protect your AppleShare 4.2 serial number

To use the AppleShare 4.2 file service, you need to provide the unique serial number listed on your AppleShare 4 Product Serial Number card, included with your AppleShare 4.2 materials.



The Product Serial Number card is the **only** record of the serial number provided to you by Apple—keep it safe and prevent its unauthorized use. You may wish to make a photocopy of the card and keep the copy in a different location than the original.

For convenience, the Product Serial Number card contains a small adhesive label with your serial number. You can attach the label directly to your server computer, in an inconspicuous place, or on a page of your *Administrator's Guide*, but do so only if the label will remain in a safe, locked location.

WARNING Don't put the adhesive label on your AppleShare 4.2 installation CD-ROM disc (or any other CD-ROM or floppy disk). The label could come loose while inside a disk drive and jam the drive.

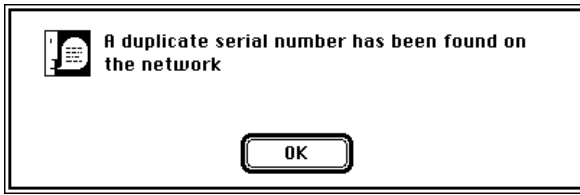
When you need to know your serial number

Here are some situations in which you need to know your serial number:

- during your initial file service setup
- if you have to reinstall your server system due to some unusual software or hardware problem, such as a hard disk drive failure
- if another server on your network appears to have the same serial number as yours and you need to verify which server has the correct serial number

Serial number verification and conflict alerts

Before you set up file service, you are required to register your software by entering your serial number, as described in the section “Registering Your Copy of AppleShare” in Chapter 2. The first time you start the File Server program, the software checks the network zone in which your server resides for other servers that may be using the same serial number as the one registered on your server. If no matching serial number is found, your serial number is encrypted and registered on the network. If your AppleShare software detects a matching serial number, the following alert box appears:



When you click the OK button, the File Server program quits.

Your server may detect a duplicate serial number on the network because

- an administrator has typed the wrong number during setup
- an administrator made a copy of an existing server system on another computer but did not type the new serial number for it
- someone copied the file server software in violation of the licensing agreement

If your server detects a duplicate serial number

If you see the duplicate serial number dialog box on a server you administer, here are suggestions on how to resolve the conflict, presented in the order of convenience to you.

Be sure that your server's serial number is correct

Follow these steps to check that you have typed your correct serial number:

- 1 Open the AppleShare Admin program on the server system in question.**
- 2 Choose File Server Serial Number Preferences from the Server menu.**
- 3 Compare the number in the dialog box to the number on your AppleShare 4 Product Serial Number card.**
- 4 If your server's serial number is incorrect, type the correct number and then restart your file service.**

IMPORTANT Only the server with a new serial number needs to be restarted.

Find the server with the incorrect serial number

When you know that your serial number is correct, you need to contact the administrator of the other server(s) as soon as possible. Try to locate the administrator for servers in the zone where the duplicate server resides, or the administrator for servers in the department in which the duplicate server resides. Ask that person to verify the duplicate server number and make any needed corrections.

If necessary, contact the administrator of your entire network and ask for help in locating, checking, and correcting the serial number.

Use network tracking and analysis software to locate the duplicate server

If you can't contact the other server administrator but you or your network administrator has network tracking and analysis software, use your software to help locate the duplicate server. You need to convert the other server's name and zone into an AppleTalk network address and use that address to find the server's physical location on the network.

Follow the network cable and check each server

When you know the AppleTalk network address for the duplicate server, work with your network administrator to identify the physical location of the network cable that matches the network address. This location will probably give you, or your network administrator, a good idea where the duplicate server is located.

If you still can't find the duplicate server, you need to follow the cable along its path, systematically looking for any attached file servers and checking each server to see if it's the duplicate. Your network administrator may have a network topology map you can use to help in your search.

Contact the Apple User Assistance Center

If you can't contact the other server administrator and you do not have network tracking and analysis software, in the United States call the Apple User Assistance Center (1-800-SOS-APPL). Apple's Support Representatives will help you determine if a new serial number is needed. Be ready to provide your identification and purchase information. Outside the United States, consult your local Apple reseller.

When you find a server with a duplicate serial number

Only a server's administrator has the Admin Key (password) to access its serial number. If the administrator for the duplicate server isn't available, look for some identifying information about that person in the area nearby or ask people working nearby how to contact the administrator.

If you must resolve the conflict quickly, but you can't contact the other administrator, in the United States call the Apple User Assistance Center (1-800-SOS-APPL) to request a new serial number for your server. You'll need to provide your identification and purchase information. Outside the United States, consult your local Apple reseller.

(Be sure to follow the guidelines at the beginning of this appendix for recording a new number, making copies, and storing the information in secure places.)

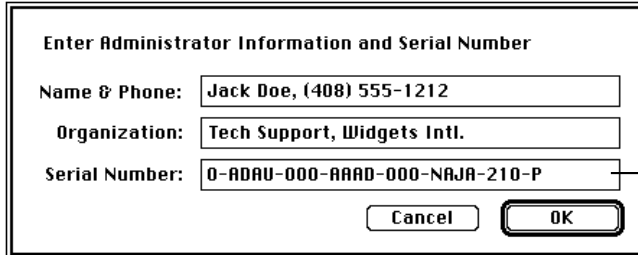
If you lose your serial number

If you lose your AppleShare 4 Product Serial Number card before you set up your file service, in the United States call the Apple User Assistance Center immediately (1-800-SOS-APPL) and ask for a replacement. Before your original number can be replaced, you'll need to provide your identification and information about your purchase. Outside the United States, consult your local Apple reseller.

If you lose your serial number after starting your file service, following are suggestions for how to proceed.

If your server system is working properly

- 1 **Open the AppleShare Admin program and choose File Server Serial Number Preferences from the Server menu. You'll then see the following dialog box.**



Enter Administrator Information and Serial Number

Name & Phone: Jack Doe, (408) 555-1212

Organization: Tech Support, Widgets Intl.

Serial Number: 0-ADAU-000-AAAD-000-NAJA-210-P

Cancel OK

Shows the serial number typed by the administrator.

- 2 **Copy the serial number listed in the dialog box on paper and store it in a safe place. Put a photocopy in another location, too.**

If your server system is OK, but the Users & Groups Data File is damaged

The AppleShare Admin program stores the serial number in the Users & Groups Data File in the Preferences folder inside the System Folder. You can get your number by replacing the damaged file with a backup copy.

WARNING If you have not made a backup of your Users & Groups Data File recently, you may lose some important data when you replace it.

Remove your damaged Users & Groups Data File from the Preferences folder inside your System Folder by dragging it to the Trash. (You won't be able to empty the Users & Groups Data File from the Trash until you restart your system.)

If you have your backup copy of the Users & Groups Data File on a floppy disk or a hard disk, drag the copy to your Preferences folder and restart the system. After you restart, see "If Your Server System Is Working Properly."

If you used a utility program to backup your entire system, use that program to restore just the Users & Groups Data File. After you restart the system, see "If Your Server System Is Working Properly."

If your server's system software is damaged

You need to first repair (or reinstall) your system software, with help from the troubleshooting information included in the documentation that came with your computer or from your support provider. If you can't easily repair or reinstall your system, but you have made a backup recently, you could restore your entire system.

WARNING Consider restoring your entire server system only as a last resort. If you have not made a backup of your system recently, you may lose some important data.

When your server system is working again, consider the following alternatives:

- If your AppleShare Admin program is OK, see "If Your Server System Is Working Properly."
- If your AppleShare Admin program is missing or not working properly, reinstall your AppleShare 4.2 software.
- If your AppleShare Admin program is working but it cannot use your Users & Groups Data File, see "If Your Server System Is OK, But the Users & Groups Data File Is Damaged."

If none of the previous procedures work

In the worst case, you may need to reinstall your system software and AppleShare 4.2, and in the United States call the Apple User Assistance Center (1-800-SOS-APPL) for a new serial number. You'll need to provide your identification and purchase information. Outside the United States, consult your local Apple reseller.

Glossary

access privileges The ability of network users to see folders, see files, or make changes to a shared disk or folder. Access privileges are determined by the administrator or by users. See *explicit access privileges* and *inherited access privileges*.

Admin Key A unique word or set of characters that you must enter before you can start the AppleShare Admin program. You enter the Admin Key the first time you start the AppleShare Admin program.

alias A file that stands for and points to a file, folder, or disk that you use as if it were the original. When you open an alias, you're actually opening its original.

AppleShare administrator The person who sets up file and print servers, registers users and their passwords, creates groups, and maintains file and print services. See *network administrator*.

AppleTalk A communications environment in which many different kinds of computers, peripheral devices, and software can work together according to protocols (rules) developed by Apple Computer.

banner page A printed page that shows the user's name, the program, the document name, the date and time of spooling, the name of the printer, and the number of pages in a document.

Bypass A print server option that allows users to print directly to a captured printer.

cache A portion of RAM used for storing frequently used folders, files, and icons. Because cached items are already in RAM, access to them is faster than if they were read from a storage device each time they are used.

capture To take control of a printer so that it prints only documents sent by the print server, unless the Bypass option is selected. Opposite of *release*.

compacting A way to conserve disk space. When you compact volume access privileges, you replace explicit access privileges with inherited ones for folders whose explicit privileges are the same as those of their enclosing folders. Replacing explicit with inherited privileges compacts the volume because inherited privileges take up much less disk space.

Ethernet A high-speed (10 megabits per second), widely used network type.

EtherTalk Software from Apple Computer that allows you to use AppleTalk network services on an Ethernet network.

Everyone A category of users for which you can set access privileges to shared volumes and folders. The category refers to anyone who logs on to the file server as a guest or registered user.

explicit access privileges Access privileges that you set for a volume or folder by selecting See Folders, See Files, and Make Changes in any combination for Owner, User/Group, and Everyone. Explicit privileges set for a folder remain with the folder regardless of where you drag it. See *inherited access privileges*.

file server A computer or dedicated server running software that allows many network users to store and retrieve files on the hard disks or other storage devices connected to it.

file server report A document created by the AppleShare Admin program that gives you information about the AppleShare file server. The report lists registered users and the groups they're members of, and includes information about the size and number of folders and files each user has.

file sharing The capability of sharing files among users on a network. See *Macintosh file sharing*.

group A group of registered users on a network who have a common set of access privileges.

guest A user who can log on to the file server without having to provide a user name or password.

guest access A type of access to the file server that permits any network user to connect to the file server for the purpose of file sharing or program linking.

inherited access privileges Access privileges that are the same as the item's enclosing folder. A folder with inherited privileges automatically takes on the User/Group and Everyone privileges of any folder (or volume) into which it's moved. See *explicit access privileges*.

Interpage Time-out A specified delay in receiving individual pages on a spooled printer. The time-out is designed to accommodate ImageWriter-generated documents, which are sent one page at a time, rather than as a complete document.

LocalTalk Built-in networking hardware and software that allows a Macintosh computer to be part of an AppleTalk network.

locked file A file that cannot be renamed, discarded, or changed, even by its owner. It can, however, be copied, duplicated, or opened. You lock a file by setting the Locked checkbox in the Access Information window.

locked folder A folder that cannot be moved, renamed, or deleted while the AppleShare File Server program is running, even by its owner. It can, however, be copied, duplicated, or opened. You lock a folder by clicking the Can't Move, Rename, Delete checkbox in the Access Information window.

Macintosh file sharing A feature of system software 7.0 (and later) that allows file sharing between Macintosh computers on a network.

mount To make volumes on a file server available for local access on a workstation.

network A collection of devices such as servers, computers, and printers that are connected together and communicate among one another. A network allows users to store, share, and retrieve information as well as share network devices such as printers.

network administrator The person responsible for setting up, maintaining, and troubleshooting a network. See *AppleShare administrator*.

network Trash Deleted files and folders that can accumulate on the server (in an invisible folder called the Network Trash folder) if users are disconnected from the file server before they have an opportunity to empty their Trash. You can empty the Trash, freeing up disk space, by using the Empty Network Trash command in the AppleShare Admin program.

owner The registered user who created or was assigned ownership of a folder.

Parallel Directory Structure (PDS) file An invisible file created on your server when you install the AppleShare software. This file keeps track of unique identification numbers assigned to each user and group created on the server as well as each folder on the server.

password A unique word or set of characters that must be entered before a registered user can gain access to a volume on the file server.

PDS See *Parallel Directory Structure (PDS) file*.

printer driver Software that controls the exchange of information between a computer and a printer.

print log A chronological list of documents formerly in the print queue.

print queue A collection of spooled documents stored on the print server and waiting to be printed in the order in which they were received.

print server A computer or dedicated server running software that lets network users send files to the same printer simultaneously, regardless of whether that printer is currently busy.

print spooling See *spool*.

privilege See *access privileges*.

program linking The ability of a program to exchange information directly with another program over a network. To use program linking, both programs must have the capability.

Queue folder A folder created when the AppleShare Print Server program captures a printer. The Queue folder is the repository for documents spooled to that printer. The Queue folder is created in the Preferences folder on the server computer's startup disk; however, you can choose to move it, if you wish.

RAM Acronym for *random-access memory*. The part of the server's or computer's memory that stores information temporarily while you're working on it. Information in RAM can be referred to in an arbitrary or random order, hence the term *random access*.

registered user A user who has been given a user name and password by the administrator. Usually, registered users have greater access privileges to volumes on a file server than guests do.

release To remove a printer from the print server's control so that documents can be printed directly. Opposite of *capture*.

shared disk A hard disk, CD-ROM, or other storage medium whose contents can be retrieved over the network.

shared folder A folder that is available to some or all network users over the network.

shared-item report A report that lists the folders on a shared disk; the names of their enclosed folders and files; and the access privileges, owner, and associated group for each folder.

sharing Making a volume available on a file server so network users can access the volume. The administrator must click Share in the Access Information window before a volume is shared.

SimpleText file A document containing plain text only. The AppleShare file server reports, shared-item reports, server log, and print log are SimpleText files.

spool To send documents to the print server to be stored until they are printed. An acronym for *Simultaneous Peripheral Operations On Line*.

superuser A registered user who has been assigned All Privileges Enabled. A superuser can see and make changes to the contents of all shared folders on a volume.

User Information window In AppleShare Admin, when you register a new user in the New User window, you enter the user's name, password, user options, and click Save. The user's name then appears in the window's title bar and is listed alphabetically in the User List. The window is then referred to as the User Information window.

User/Group A category of users for which you can set access privileges to shared folders and disks. The category consists of any user or group that is registered on the file server.

user name The name chosen by a user or network administrator to identify a registered user.

Users & Groups An AppleShare 2 file that stores the account information about users and groups. The Users & Groups file is stored in the Server folder, in the startup disk's System Folder.

Users & Groups Data File An AppleShare 3 or 4 file that stores the account information about users and groups. The Users & Groups Data File is stored in the Preferences folder, in the startup disk's System Folder.

volume A hard disk attached to the server computer, or a folder contained on that disk, that is defined and named as a place to store files.

zone Zones are set up by a network administrator and are used to group devices on a network.

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